COMMUNITY CONFLUENCE

CONNECTING THE CITIES OF LAKEWOOD & ROCKY RIVER AND THE CLEVELAND METROPARKS ROCKY RIVER RESERVATION

2021

A Transportation For Livable Communities Initiative Planning Study

Sponsored By:

NORTHEAST OHIO AREAWIDE COORDINATING AGENCY

NOACA: Planning For Greater Cleveland

In Partnership With:

County Planning
CUYAHOGA COUNTY PLANNING COMMISSION

County of Cuyahoga Ohio

Cleveland Metroparks

Lakewood Ohio

City of Rocky River

ACKNOWLEDGMENTS

Thank you to the project team, stakeholders, and community members who invested their time and expertise in the creation of this Transportation for Livable Communities Initiative Plan to connect the cities of Lakewood and Rocky River and the Cleveland Metroparks Rocky River Reservation.

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Introduction

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INTRODUCTION

COMMUNITY CONFLUENCE

About the Plan

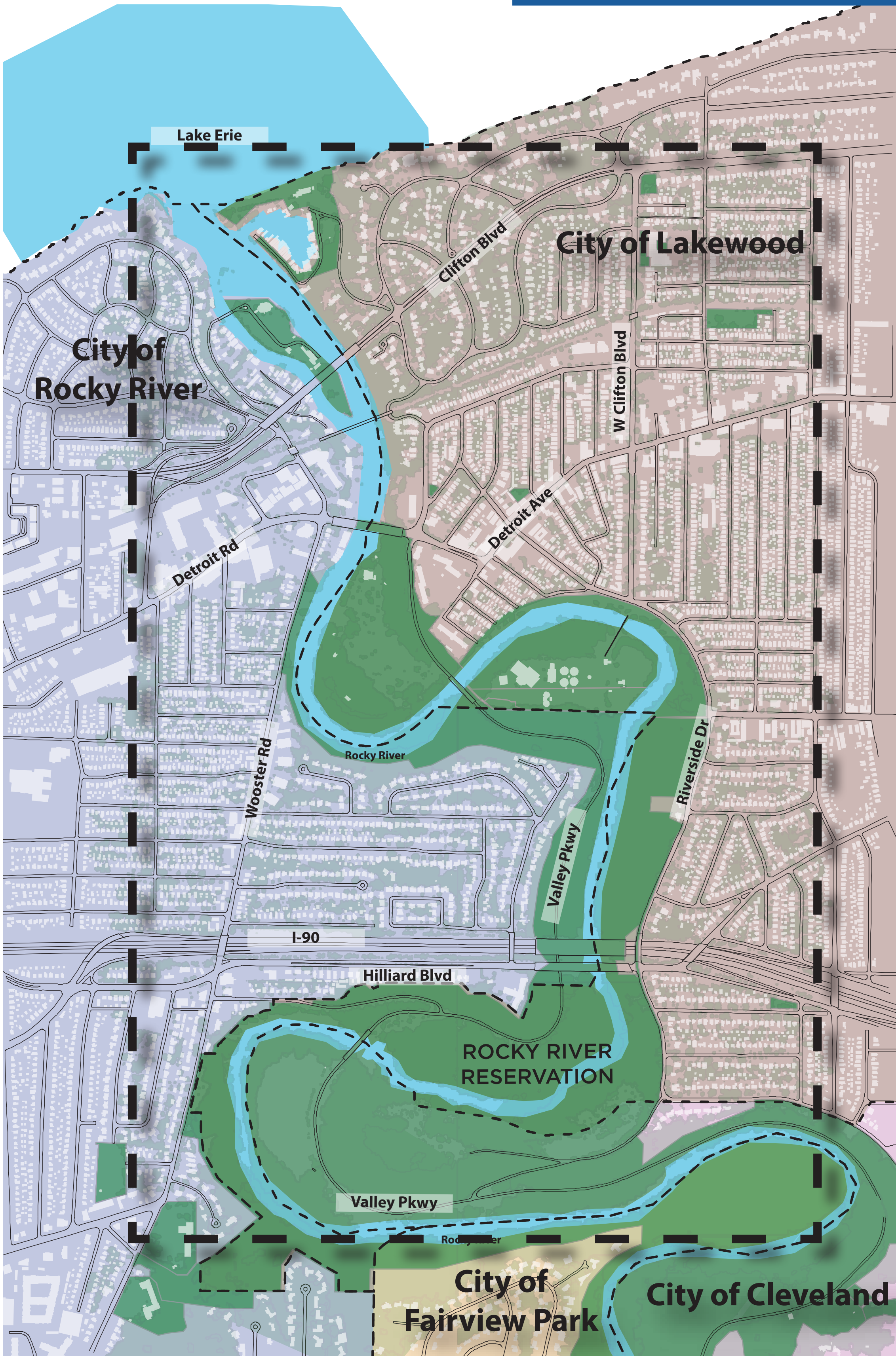
Community Confluence is a Northeast Ohio Areawide Coordinating Agency (NOACA) Transportation for Livable Communities Initiative (TLCI) led by Cuyahoga County Planning Commission, Cleveland Metroparks, the City of Lakewood, and the City of Rocky River to improve the multi modal and active transportation access, circulation, safety, and wayfinding between the cities of Lakewood, Rocky River, and the Rocky River Reservation.

The Rocky River Reservation is part of the 24,000 acre Cleveland Metroparks system of natural-area regional parks. The reservation encompasses more than 2,500 acres of the Rocky River Valley and includes three golf courses, a marina, and nature center, as well as the Emerald Necklace trail. This off-road trail stretches 33 miles from Detroit Avenue in Lakewood to the Cuyahoga Valley National Park in Brecksville, connecting to multiple communities and other regional trails along the way.

The three existing bridges (Clifton Boulevard, Detroit Road, and Hilliard Boulevard) spanning the Rocky River Valley between the communities of Lakewood and Rocky River currently have minimal accommodations for people traveling by bike or foot, which results in a disconnected active transportation network between the two communities, and limits non-vehicular access to the Rocky River Reservation. Connections are further complicated due to the steep topography of the valley, which includes 120 foot cliffs in several locations.

The study also examines wayfinding to clarify the most effective circulation to the major entrances of the Rocky River Reservation, along with announcing to the users when they have arrived at the cities of Lakewood and Rocky River.

Project study area



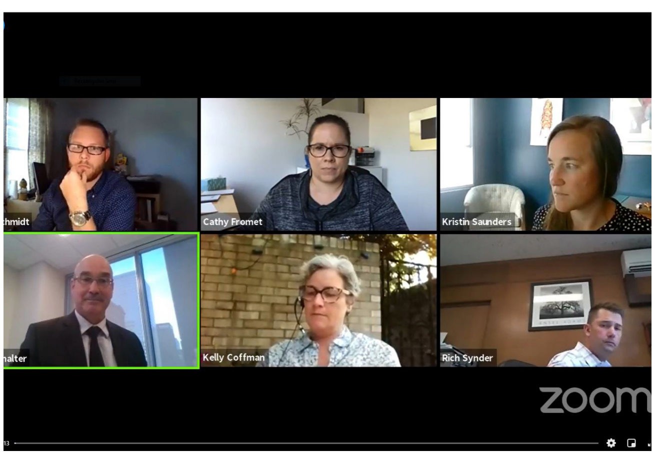
Supporting Plans and Initiatives

The Community Confluence plan integrates previous plans and initiatives which have been adopted by Cuyahoga County Planning Commission, the City of Lakewood, the City of Rocky River, Cleveland Metroparks, and NOACA. Those plans and initiatives include:

- City of Lakewood's Community Vision
- Bike Lakewood Priorities Report
- Hogsback Lane Access TLCI Study
- Active Living Task Force Recommendations Report
- Rocky River Master Plan
- Rocky River Reservation Master Plan
- Cuyahoga Greenways TLCI Plan
- Detroit Road Traffic and Parking Analysis
- Emerald Necklace Trail Bicycle and Pedestrian Crossing Improvements Study

The project team also coordinated with two additional projects which were active during the development of this plan:

- Detroit/Sloane/Valley Parkway Intersection Improvement Project
- Hilliard Boulevard Bridge Rehabilitation Project



Members of both the consultant and project team preparing for the virtual workshop session.

Who Was Involved

Project Team

The project team was comprised of: Cuyahoga County Planning, Cuyahoga County Public Works, Cleveland Metroparks, City of Lakewood, City of Rocky River, and the Northeast Ohio Areawide Coordinating Agency (NOACA). Individuals from each of these organizations collaborated to develop and prioritize strategies which advanced each of the project goals. Representatives from each of the organizations were integral in the planning process and assisted in outreach and engagement efforts to involve members of the community and stakeholders in the planning process.

Stakeholders and Community

Stakeholders and community members also provided important perspectives on the study area and project recommendations. Due to the COVID-19 pandemic, the project team invited the public and stakeholders to participate in on-line surveys, virtual webinars, and virtual workshops. The online surveys provided the project and consultant team baseline information from users of the infrastructure, while the virtual webinars and office hours gave an opportunity for the consultant team to report out, listen, and provide insights into the recommendations of the plan. A more detailed explanation of the stakeholders and community perspectives is shared in Chapter 2.

Consultant Team

OHM Advisors guided the planning process and provided traffic analysis for the plan recommendations. Toole Design Group provided additional expertise on active transportation, and Guide Studio developed wayfinding, branding, and communications.

Goals and Objectives

Community Confluence plan serves as a guide for the cities of Lakewood and Rocky River, and for the Cleveland Metroparks to improve multi-modal and active transportation access, circulation, safety, and wayfinding.

The NOACA TLCI program seeks to develop transportation and land use planning projects which strengthen community livability. More specifically, those goals include: providing greater transit options, enhancing regional cohesion, providing people with safe and reliable transportation options, and developing context sensitive solutions.

To accomplish the goals of the NOACA TLCI program and of the project team, several objectives where created to provide direction and focus the team's efforts:

1

SHORTEN THE PERCEIVED DISTANCE...across the Rocky River Valley, between the Lakewood and Rocky River neighborhoods, and to the reservation.

2

BROADEN PUBLIC AWARENESS...of the Reservation and its resources through visual and cognitive connections.

3

REINFORCE...continuity between the Cities of Lakewood, Rocky River and the Rocky River Reservation.

4

HUMANIZE...the pedestrian experience throughout the study area.

5

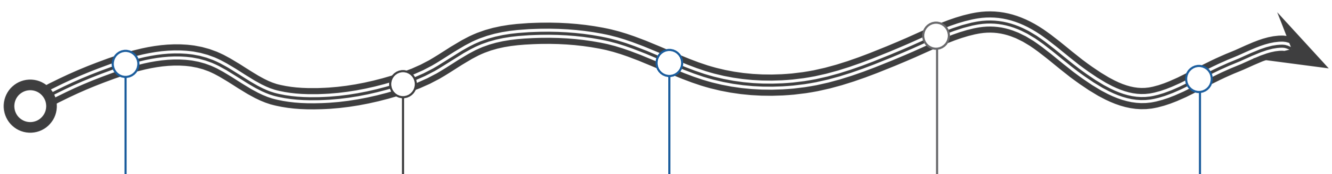
SERVE...all peoples, abilities, and transportation mode types.

6

ESTABLISH HIGH QUALITY... and safe multi-modal connections between key destinations.

PROJECT PROCESS

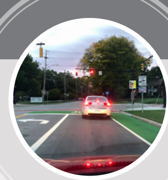
Developing the Community Confluence Plan involved a nine-month process through a five phase approached shown in the figure below. Throughout the process the consultant team met periodically with the steering committee, stakeholders, and members of the community to help guide and inform the Plan.



EXISTING CONDITIONS ANALYSIS

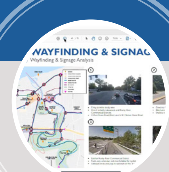
Phase I: Identify preliminary project goals and finalize engagement strategy. Inventory and assess existing conditions.

TRAFFIC/ TECHNICAL ANALYSIS



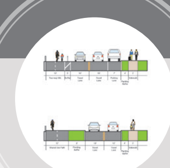
Phase II: Perform technical and traffic analysis based on the project goals and results of the existing conditions analysis.

COMMUNITY ENGAGEMENT



Phase III: Engage with members of the community and stakeholders through surveys and workshops to develop recommendations.

DRAFT PLAN & ALTERNATIVES



Phase IV: Test and refine recommendations based on public engagement and project team input. Develop draft report, including implementation strategies and funding sources.

FINAL REPORT

Phase V: Based on the steering committee input, refine and finalize the plan report.

PLAN COMPONENTS

The project team utilized the following components to develop the plan recommendations.

Existing Conditions

The project team assessed existing conditions and previous planning studies, through desktop, virtual, and in-person reconnaissance to understand opportunities and challenges in the study area.

Stakeholder and Community Input

Throughout the planning process, the project team facilitated discussions with stakeholders and community members to gain local citizens' perspectives on the study area. Methods for engagement included online surveys, field audits, virtual webinars, virtual workshops and one-on-one conversations, always according to current COVID-19 safety protocol, to keep all participants safe and healthy.

Best Practices

The consultant team relied on their past project and team members' experience, infusing national best practice standards and solutions when developing the plan recommendations.

02

Understanding the Context

02

UNDERSTANDING THE CONTEXT

OVERVIEW

This section lays a foundation for the plan strategies by analyzing the current physical and social conditions within the study area. This includes an examination of existing and planned projects, an analysis of the 12 segment corridors (See Figure 2-5), and committee, stakeholder, and community perspectives.

PREVIOUS PLANNING STUDIES

Understanding prior planning efforts, successes, and challenges helps create a feasible plan and ensures cohesion across implementation strategies. The project team factored observations and recommendations from the following studies into the recommendations of Community Confluence.

City of Rocky River Master Plan

In 2017, the Cuyahoga County Planning Commission prepared the Rocky River Master Plan for the City of Rocky River. The goal of the plan was to establish a long-term community vision that would help the community develop and grow. The plan covers existing conditions, outlines the public engagement sessions, and establishes 10 overarching vision statements. From these vision statements, a series of project goals and core projects was identified.

The community goals range from various parks and streetscape improvements, to green infrastructure and connectivity solutions, as well as highlighting a desire to update the City's zoning code. Specifically, constructing a citywide trail and bicycle network was identified as an important goal. A core project outlined in this plan is the Wooster Road Recreationway, which includes additional sidewalks, trails, parks and overlooks, and potential connections to other regional trails.

City of Lakewood Bike Plan

In 2012, the City of Lakewood prepared a Bicycle Master Plan to help establish bicycling as a main means of transportation and to accommodate current bicyclists' needs through policies, programs & projects. An existing conditions analysis, partnered with a national and regional best practice analysis, helped establish a community-wide vision, and a series of action items to make Lakewood one of the most bike friendly communities in the country.

The action plan outlines a series of different initiatives, which include expanding the supply of bike racks and educating the public to bring awareness to the cause. Another action item was establishing a network of primary routes, which highlighted various sharrow and protected lane paths. This initiative was revisited in 2019 to outline the various planned facilities that would follow the original bike plan. Proposed bike lanes on Hilliard Road and shared lanes on Riverside Drive are amongst the planned expansions along the Rocky River Reservation.

Cleveland Metroparks Rocky River Reservation Master Plan

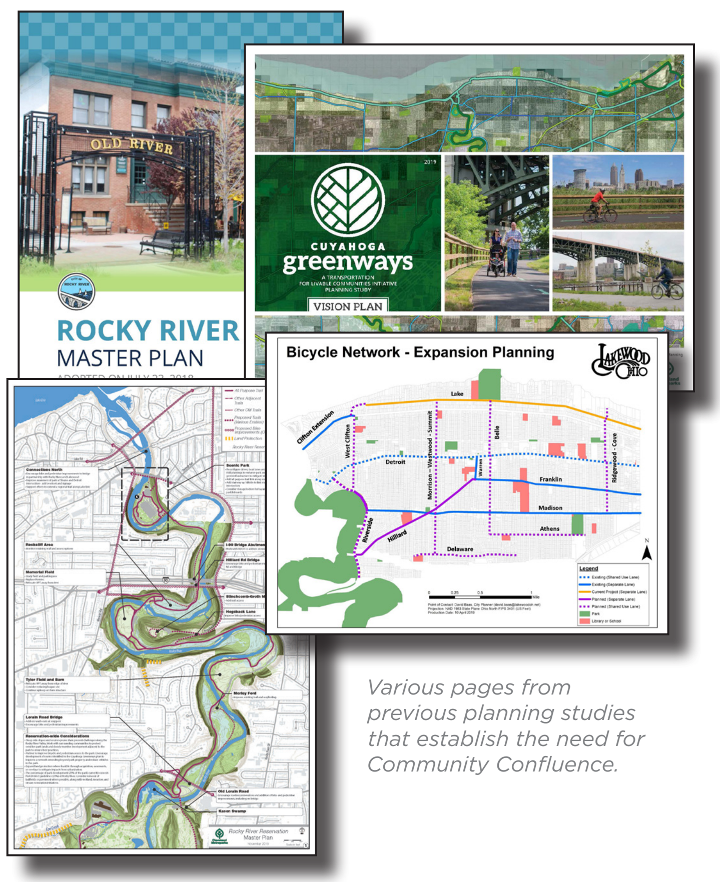
In 2018, the Cleveland Metroparks initiated a Rocky River Reservation Master Plan. This plan covers 2,579 acres of land and the reservation stretches roughly 10 miles inland from Lake Erie along the Rocky River and then its East Branch. The plan identifies multimodal infrastructure connections and improvements in the reservation, as well as additional areas for conservation. The plan also calls out specific engineering and traffic challenges that face various roads and trails in the reservation.

From Scenic Park down to Memorial Field to the Mill Stream Run Reservation, proposed trails, multimodal paths, bike improvements, and potential trailheads and kayak launch points are outlined in the plan to make the bicycle and pedestrian network in the area more friendly and inviting. Recommendations from the plan help create a complete and updated network within the reservation and other regional parks.

Cuyahoga Greenways Plan (TLCI)

In 2019, a countywide greenways plan was prepared for Cuyahoga County, Cleveland Metroparks, and the Northwest Ohio Areawide Coordinating Agency (NOACA). This Transportation for Livable Communities Initiative (TLCI) sets up the vision, outlines a plan, and establishes implementation strategies for greenways and urban trails throughout Cuyahoga County. The plan aims to build an interconnected network that is safe and user friendly for people of all ages, abilities, and demographics, that will change the way people think about and move around the county through trails and other transportation options.

The plan outlines key priority projects through analyzing existing and proposed networks across 59 separate municipalities in Cuyahoga County. Projects range from identifying critical access gaps, important regional links, and key supporting routes, all with proposed route types, contexts, supporting land uses, and potential project partners and funding options.



Various pages from previous planning studies that establish the need for Community Confluence.

STUDY AREA ANALYSIS

During the analysis phase, the project team examined the existing conditions within the study area including existing facilities and routes, identified planned and proposed projects, wayfinding, and potential gateway or urban design interventions. The study area was broken down into twelve segments (see Figure 2-5). These twelve segments were used as the primary organization and reference tool during the field analysis and observation task, and during the community engagement.

The information obtained from the analysis helped the project team determine which segments to focus its efforts on. The team applied the recommendations from previous studies to the respective Community Confluence segments, and then focused on the remaining active transportation network gaps, along with overall user safety, and opportunities to celebrate the natural beauty of the Rocky River Valley.

Natural Terrain and Features

The Rocky River forms a natural boundary between the cities of Lakewood, Cleveland, Fairview Park and Rocky River. The main brand of the river begins at the confluence of the East and West Branches, flows due north for 12 miles, and empties into Lake Erie. It is often characterized by its deep valley and steep shale cliffs, which in some places reach depths of 150 feet below the streets above the valley.

The valley also features wide-open meadow areas and dense floodplain forests with cottonwoods, sycamores, and willows. Along the entire Rocky River, eight high-level bridges cross the river, five of which reside in the study area. These natural features of the Rocky River Valley (long and narrow river, deep cut shales, and picturesque views) are what attract many individuals, but also make access to the valley a challenge. Figure 2-1 displays those deep valleys and topographic changes along the entire portion of our study area. As the recommendations of the plan were developed, the project team sought to enhance opportunities to view the natural features and improve access points into the valley.

The Rocky River Watershed (shown in the brown outlined shadow) in context with its location with the region from the Ohio Department of Natural Resources.

FIGURE 2-1: Natural features map (river, greenspace, topography)

Urban Design Interventions

Due to the nature of the terrain in the study area, multiple opportunities exist to celebrate the Rocky River Valley and the experience of crossing over it. There are three bridges which span the valley (Clifton Boulevard, Detroit Road, Hilliard Boulevard) and five corridors (Wooster Road, Riverside Drive, Valley Parkway, Rockcliff Drive, and Hogsback Lane) which provide viewsheds into or from within the valley. These are the opportunities where a creative design can be implemented to both humanize and celebrate the crossing and view of the valley.

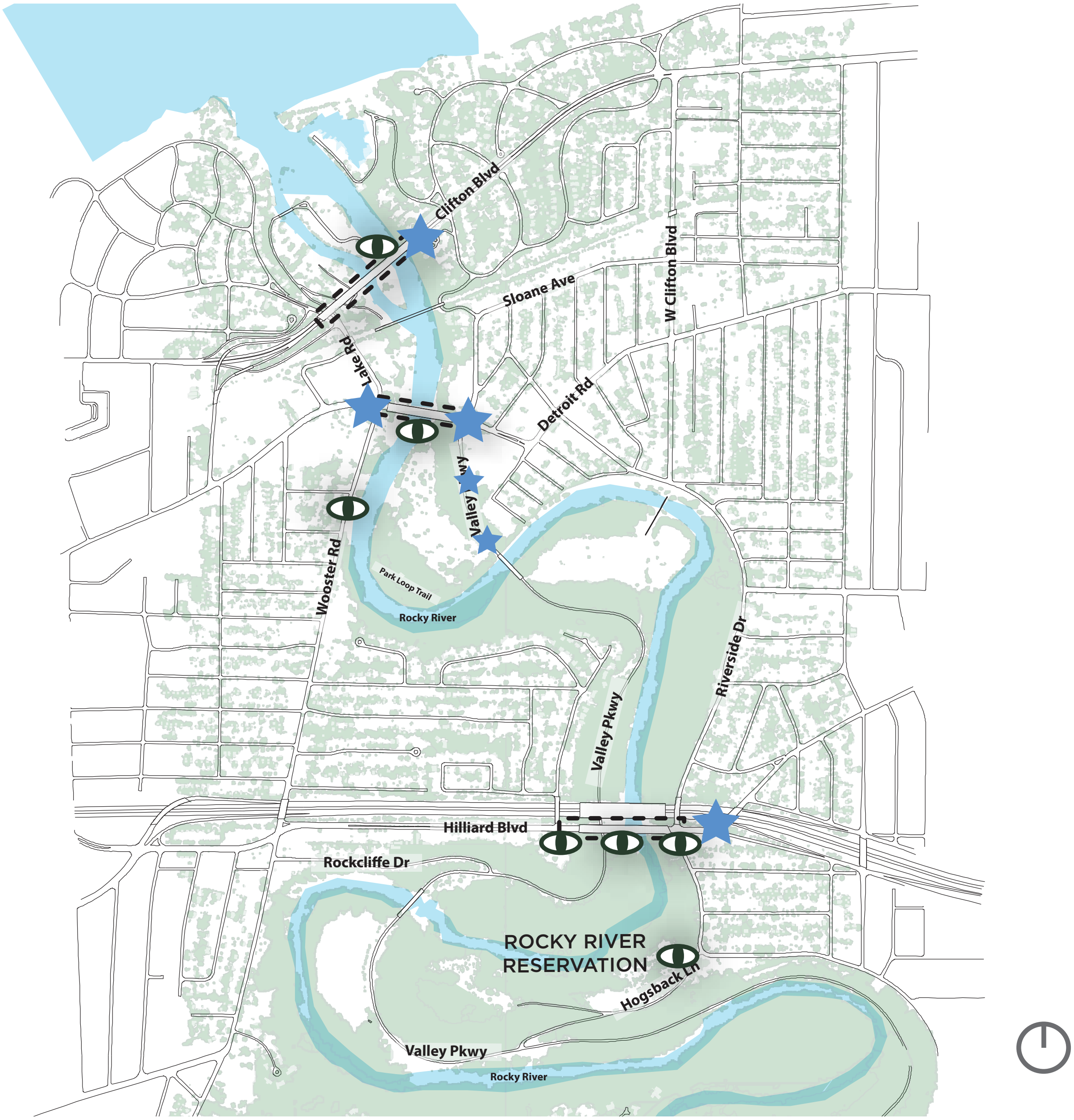
Figure 2-2 shows a summary of where these design interventions could take place. Some are incorporated within the bridge crossings while others are associated with the adjacent corridors along the valley. The project team developed recommendations for two areas (Wooster Road and Detroit Road Bridge) which are outlined in chapter three, but the other marked areas on the map should be discussed and developed further in future project phases.

The Rocky River Reservation is the dividing line between Lakewood and Rocky River, which presents the opportunity to celebrate the "entrance" into the respective municipalities.

Along the pedestrian path and bicycle lanes across the bridge spans, installations can be incorporated to better humanize the crossing experience.

The bridges within the Community Confluence study area offer amazing views across and into the Rocky River Valley which can be taken advantage of with overlooks.

FIGURE 2-2: Urban Design Opportunities



LEGEND	
(eye symbol)	Overlook Opportunities
(star symbol)	Gateway/Entrance Improvements
(dashed box)	Bridge Overpasses

Study Area Components

The study area contains several community and regional assets which residents and visitors could take better advantage of, with stronger multi-modal connections. The Rocky River Reservation possesses several walking/biking trails, picnic and recreation areas, and, the river itself, which is a popular fishing and kayaking location. Detroit Avenue serves as the primary commercial corridor for both of the Cities of Lakewood and Rocky River. All of these assets, along with connections to the immediate neighborhoods via Clifton Boulevard, Detroit Avenue, and Hilliard Boulevard, create a confluence of movement, economic energy, and recreational and entertainment activity.

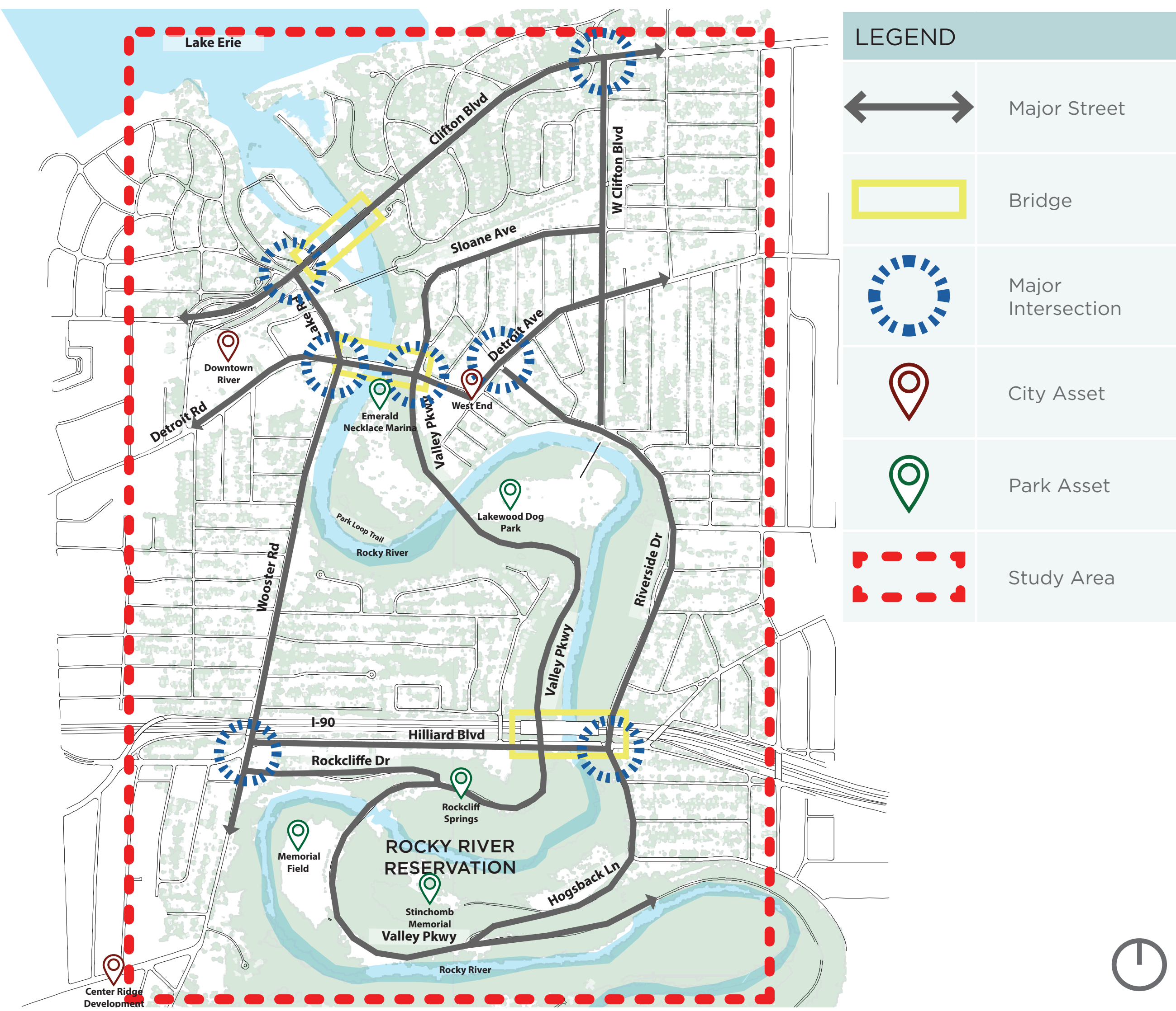


FIGURE 2-3: Study Area Components

Existing Bike Facilities & Transit Routes

Three all-purpose trails wind through the Rocky River Reservation: the Park Loop Trail by the marina, along Valley Parkway, and parallel to Rockcliff Drive. The City of Lakewood has existing bike facilities in the form of buffered bike lanes along Clifton Boulevard, bike lanes along Madison Avenue, and sharrows along Detroit Avenue.

In addition to the bike infrastructure, there are three Greater Cleveland Regional Transit Authority (GCRTA) bus routes which include the 55, 26, and 25. Their routes are shown below.

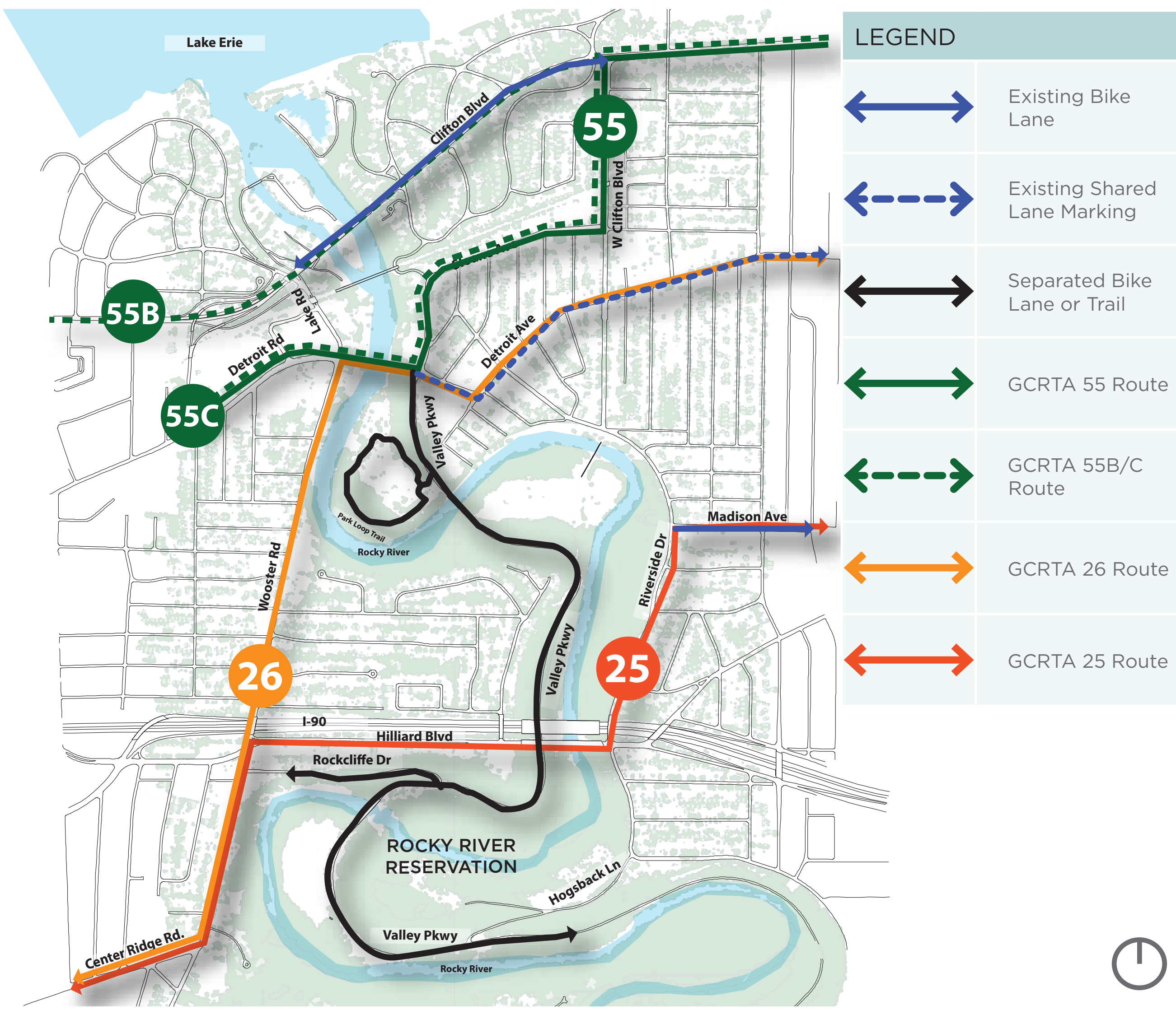


FIGURE 2-4: Existing Bike Facilities and Transit Routes

Field Analysis & Observations

Project team members performed individual, in-person field audits of the twelve corridor segments (See Figure 2-5) and compared notes to gain a more informed perspective on the existing conditions.

While bike infrastructure exists on some corridors, most corridors lack safe, adequate bike infrastructure such as Hilliard Boulevard, Riverside Drive, Sloane Avenue, Wooster Road, and Lake Road. Other corridors with bike infrastructure (Clifton Boulevard, Detroit Avenue, Rockcliff Entrance, and Valley Parkway) could be improved to enhance visibility, pavement conditions, crossings, user comfort, and in the cases with trails, ensure enough space for the use of both pedestrians, runners, and cyclists.

The corridors within the reservation, Valley Parkway, Park Loop, and Rockcliff Entrance, provide a pleasant experience for pedestrians. In some instances crossings could be clarified. The Rockcliff Entrance, although containing a portion of a trail to gain access to the reservation, lacks clear wayfinding signage.

The specific qualitative observations for each of the twelve corridors are summarized in the appendix.

Showing the Clifton Blvd bike lanes and buffer zone looking westbound.

View of the current configuration of Detroit Road Bridge looking eastbound showing the sidewalk condition.

View looking eastbound on Clifton Boulevard approaching the bridge portion of the corridor where no sidewalks exist.

FIGURE 2-5: The twelve segments of the study area

LEGEND

1	Clifton Blvd. (0.8 mi.)	4	W. Clifton Rd. (0.7 mi.)	7	Park Loop Trail (0.6 mi.)	10	Hilliard Blvd. (0.7 mi.)
2	Lake Rd. (0.3 mi.)	5	Wooster Rd. (0.7 mi.)	8	Valley Pkwy. (0.9 mi.)	11	Valley Pkwy. (2.0 mi.)
3	Sloan Ave. (0.6 mi.)	6	Detroit Ave. (0.7 mi.)	9	Rockcliff Entrance (0.3 mi.)	12	Riverside Dr. (1.6 mi.)

Planned & Proposed Projects

In Figure 2-6, the existing routes are overlayed with the previously proposed infrastructure and current planned bike infrastructure projects. The following are the planned and proposed infrastructure projects, with the facility types listed in parenthesis:

- Riverside Drive (bike lane & shared use lane)
- Hilliard (Lakewood = bike lane; Rocky River = cycle track)
- W. Clifton Road (shared use lane)
- Wooster Road (all-purpose trail)
- Detroit Road (all purpose trail & bicycle boulevard)
- Lake Road (cycle track)
- McKinley Avenue (sharrows)

As the team progressed through its analysis of the existing conditions and conducted its community and stakeholder engagement, it considered the findings, comments, and recommendations of these projects and facility types as part of the recommendations for this initiative.

Two design and engineering project were also active, during this study. The City of Lakewood had commenced a Detroit Avenue Improvements project and Cuyahoga County Public Works commissioned the Hilliard Road Bridge Rehabilitation. The Detroit Avenue Improvements project is between Sloane Avenue and Graber Avenue. It will improve the pedestrian experience along the stretch with improved pavement and street trees. Both intersections will contain enhanced crosswalks, and the Detroit Avenue and Sloane Avenue intersection will shorten pedestrian crossing distances with curb extensions and install new gateway treatments. The Hilliard Road Bridge Rehabilitation will add pedestrian and bicycle facilities.

The recommendations outlined in Chapter 3 have been coordinated with both on-going projects.

Hilliard Road Bridge looking westbound which is part of the County Public Works Bridge Rehabilitation project.

Gateway treatments at the intersection of Detroit Avenue, Sloane Avenue, and Valley Parkway.

FIGURE 2-6: Planned, Proposed, and On-Going Projects

LEGEND

	Existing Bike Lane		Planned Infrastructure (from existing plan documents)
	Existing Shared Lane Marking		Projects In-Progress
	Existing Separated Bike Lane or Trail		

Wayfinding Analysis

Wayfinding refers to the information systems that guide peope through a physical environent and enhance their understanding and experience of the space or place.[1] Well-developed wayfinding systems signal that something is happening in your place; it serves as a catalyst to enhance community pride and image.

Wayfinding programs will:

- Enhance a community's image
- Support understanding of a community
- Provide information for increased comfort and safety
- Inspire increased visitation

Wayfinding Goals

- Connectivity into neighborhoods.
- Create continuity — universal language with park and cities.
- Consistent and simple visual look/feel.

Issues/Challenges

- Knowing where you are in relation to the rest of the City(s)/Park.
- Providing aid for confusing moments where you need to make a decision.
- Multi-modal with attention needed for pedestrian and bike experiences.
- Prioritizing roads/paths that will provide the best experience and access to desired destinations.

Travel Path & Decision Point Study

Travel paths allow us to understand how people may be entering and exiting the study area to access high visibility/desirable destinations.

For this study, we marked both vehicular and bicycle traffic to understand how these two types of traffic will interact. For this study, we assume that areas where cycling traffic occurs, pedestrian traffic may also be found.

When you overlay the marked travel paths, you begin to see where decision points may be occurring. Decision points are areas where wayfinding instruction/information may be needed — beyond your typical street markings and guidance signs.

This practice allows you to provide instruction on well-traveled/high-traffic areas and eliminates unnecessary signage in other areas.

Signing at decision points allows for:

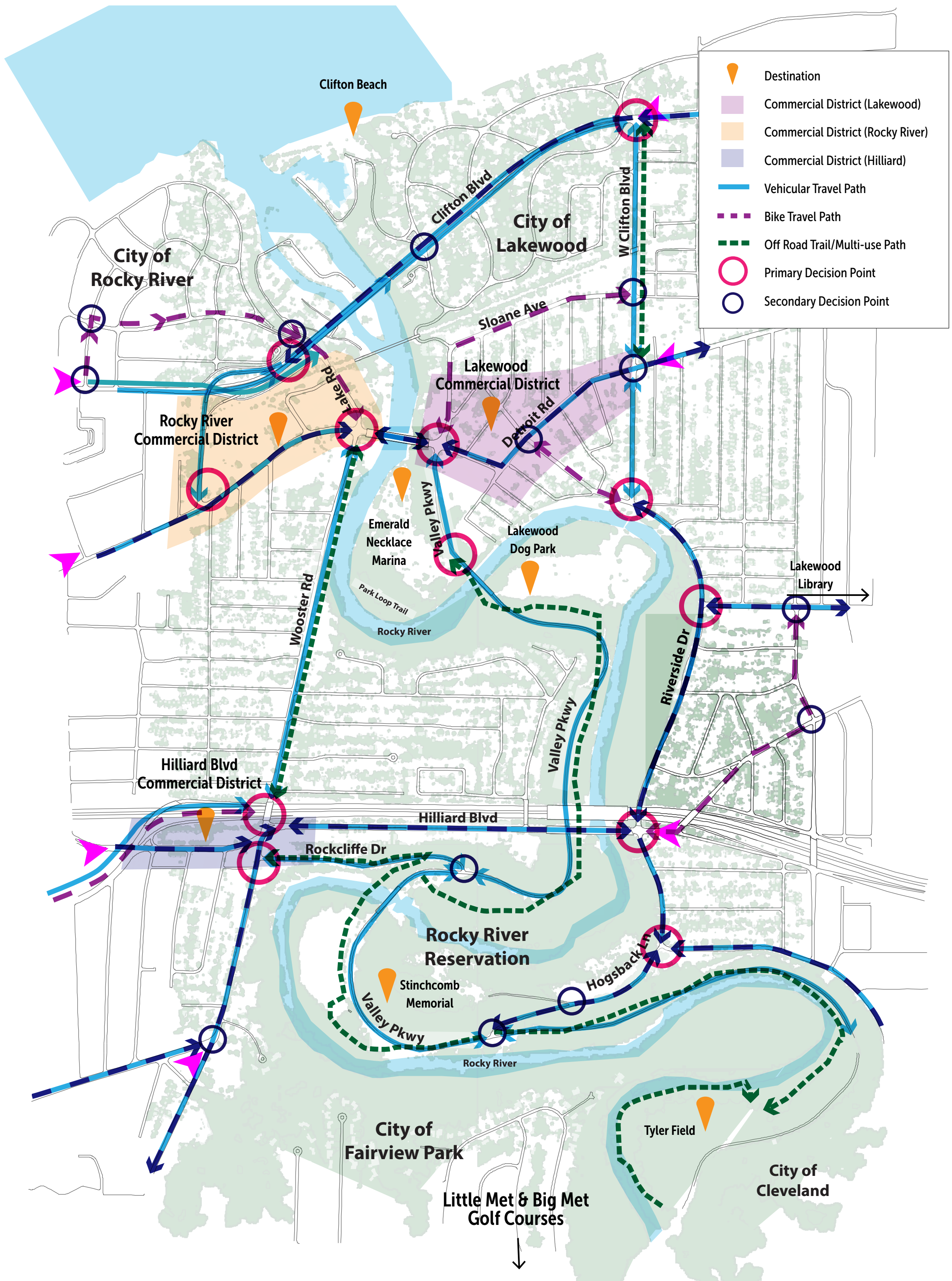
- People to select destinations they want to travel;
- Make decisions, like lane changes before the actual move, for increased safety;
- Reduces sign clutter by prioritizing and organizing clear travel paths and messaging.

Once we understand where these decisions need to be made, we can begin to look at the context of each location to determine the right type of signage and message interventions for that particular area.

On the following pages, we have documented issues and information needs for each of the decision points marked on this map. With an understanding of the context of these areas, we will then be able to recommend sign types that would be appropriate to aid in navigation — specifically for our pedestrian and cyclist travelers.

1 **Wayfinding definition: Society for Experiential Graphic Design www.segd.org**

FIGURE 2-7: Travel Paths and Decision Points



Context Study

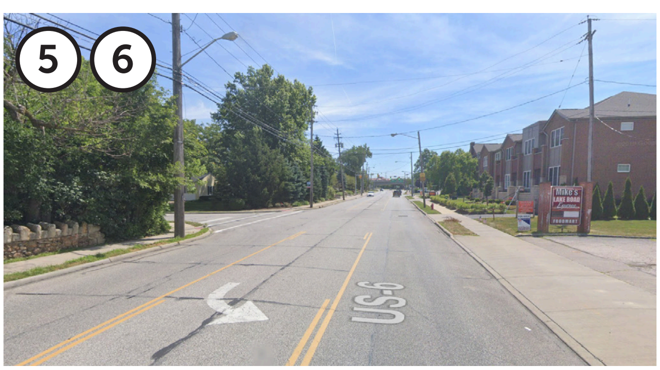
The number and image corresponds to figure 2-8.

- Entry point to study area
- Direct to both Lakewood and Rocky River Commercial Districts
- Clifton Share Road/Bike Lane & W. Clinton Share Road

- Exit for Rocky River Commercial District
- Feels very vehicular, not comfortable for cyclist
- Sidewalk ends and jogs to sidewalk of Rte. 6 on ramp

- Direct to Rocky River Commercial Districts
- Bike Lane on Clifton Blvd. ends - Share Road
- Shallow sidewalk across bridge

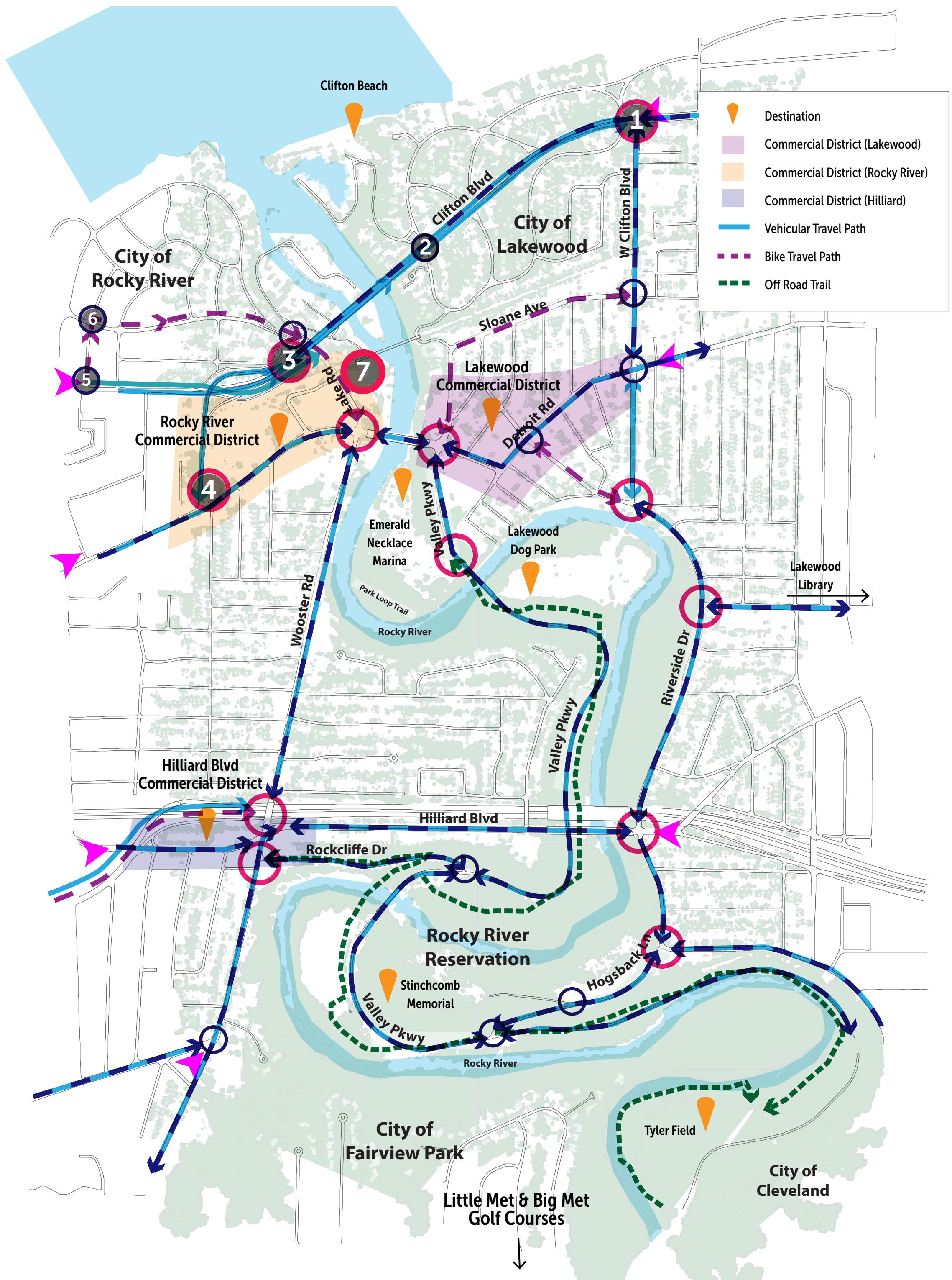
- Entry point to Rocky River Commercial District
- Detroit is a Share Road



- Lake/Clifton is mainly vehicular to the Rocky River Commercial District
- Google diverts north on Argyle to Beachcliff and around to Lake Road for bikes

- Entry (past Bridge) to Rocky River Commercial District
- Connects with potential re-route from Clifton Exit

FIGURE 2-8: Context at Decision Points



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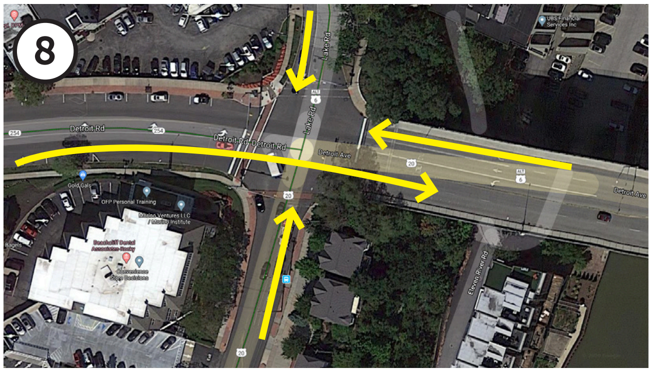
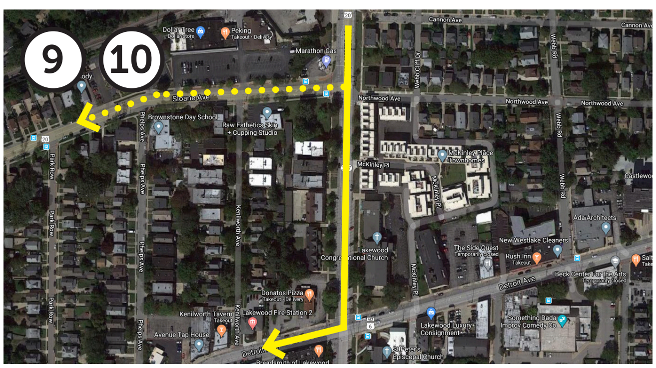
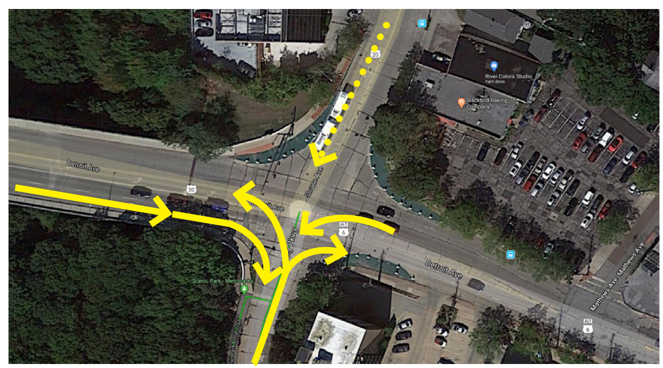


- Critical Decision Point
- Entry to Rocky River Commercial District
- Direct to Lakewood Commercial District/Metroparks

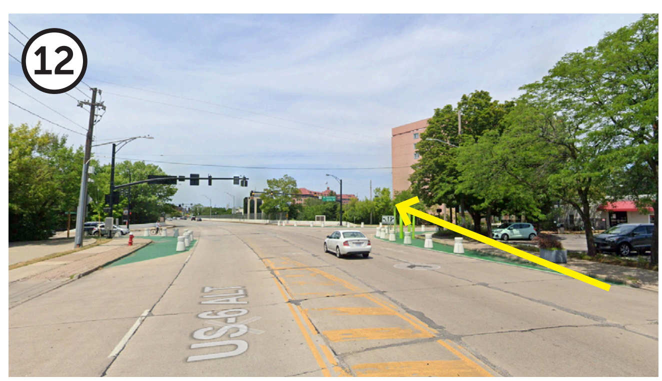


- W. Clifton to Detroit is more direct into Lakewood Commercial District but heavy vehicular and street parking could be problematic for bikes
- Routing down Sloane is a bike option



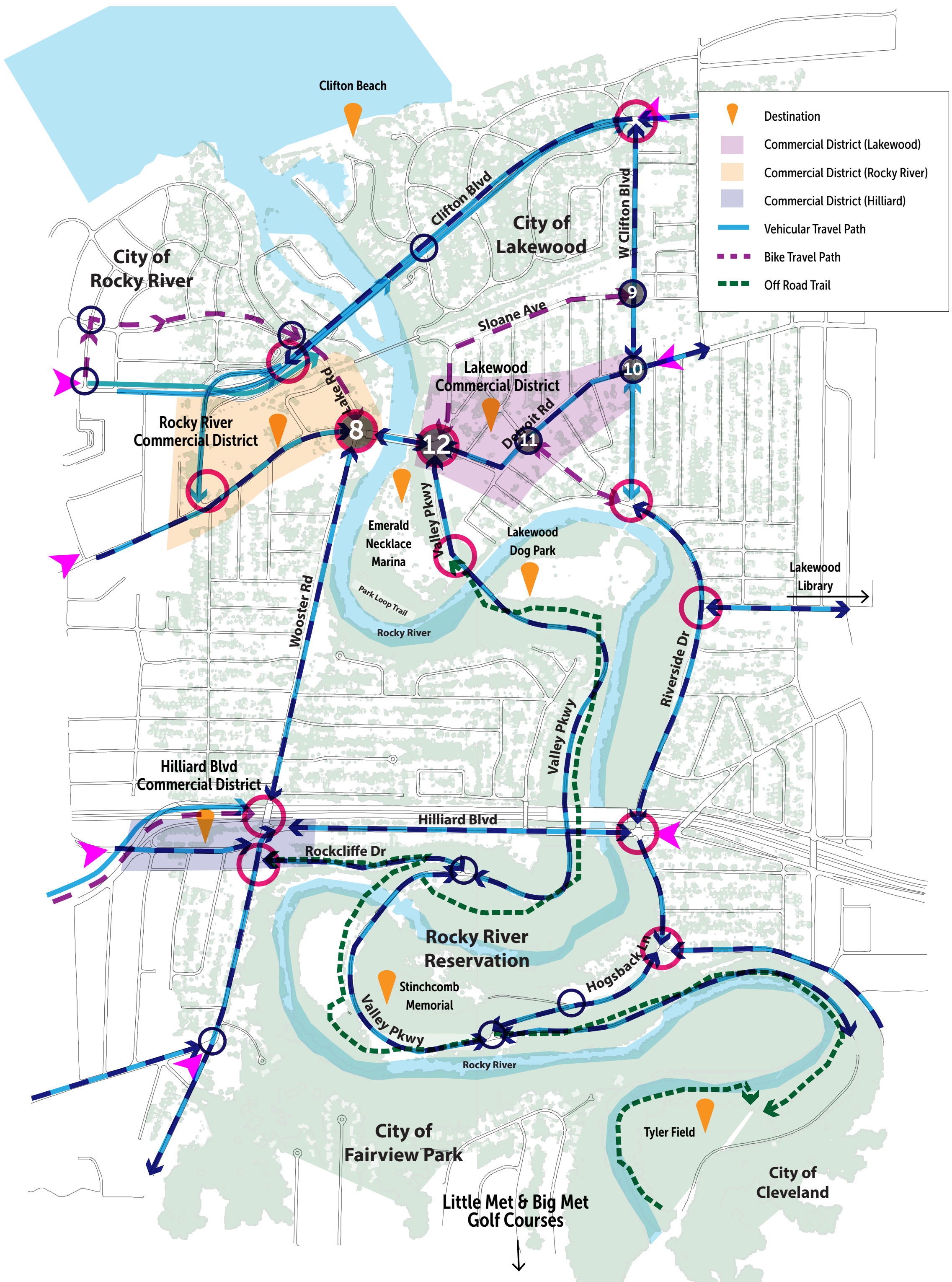
- Placemaking and direction needed here

- Continue guidance into the heart of the Lakewood Commercial District
- Direct to Metroparks and Rocky River Commercial District



- Critical Intersection: Entry to Metroparks, Commercial Districts

FIGURE 2-9: Context at Decision Points



The number and image corresponds to figure 2-10.

- Cleveland Metroparks Drive includes paved bike path, comfortable walking and biking
- Direction to Dog Park (south) and Commercial Districts (north)

- Directing to Lakewood Commercial District
- Directing to Rocky River Reservation entrance (opposite direction)

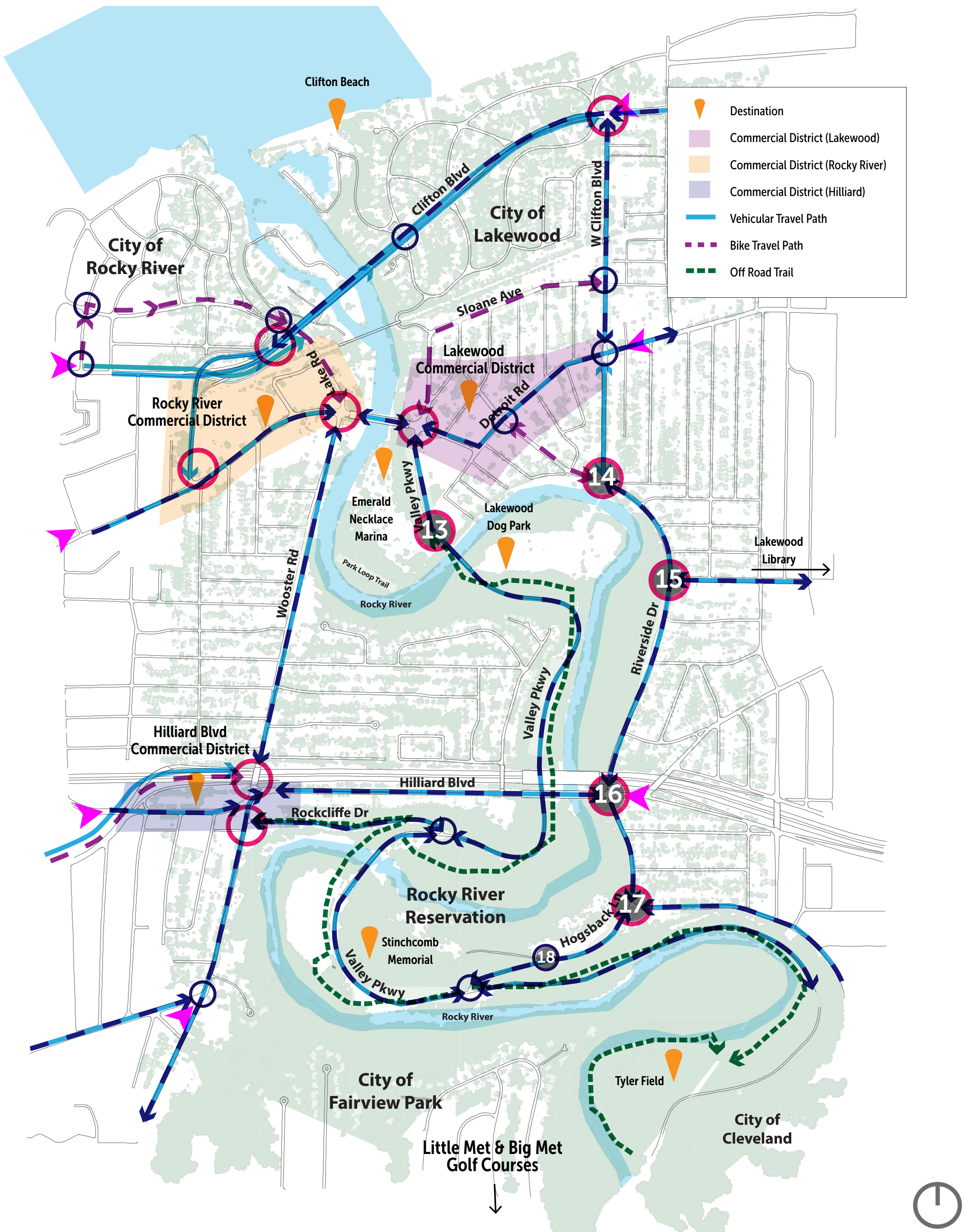
- Direction needed to destinations north and south

- Placemaking and direction needed here
- To Metroparks and Hilliard Business District

- Entrance to Metroparks - very uncomfortable for cars and bikes

- No off-road trail here. Both very steep hills with vehicular traffic
- Hidden entry when heading east

FIGURE 2-10: Context at Decision Points



The number and image corresponds to figure 2-11.

- Metroparks directional sign present

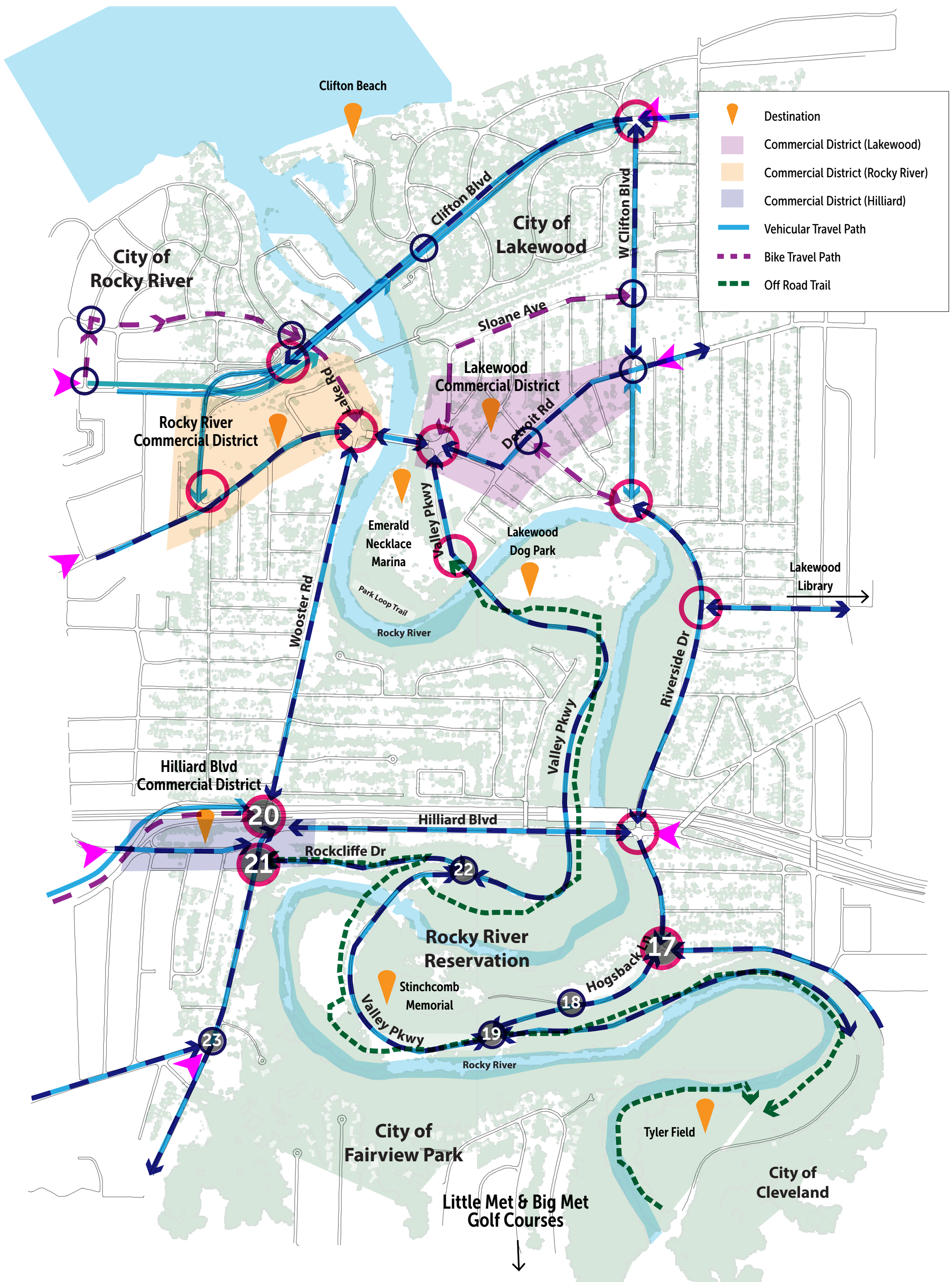
- Direction here. Go deeper into Metroparks, up to dog park via Valley Parkway or Hilliard Business District heading west

- Placemaking and direction needed here
- To Metroparks and entry to Hilliard Business District

- Direct north up Wooster to Metroparks and Hilliard Business District
- Wooster is a Share Road

- Entrance to Metroparks at Rockcliff
- Very residential with sidewalks
- Paved multi-purpose path begins further down Rockcliff

FIGURE 2-11: Context at Decision Points



COMMITTEE, STAKEHOLDERS, AND COMMUNITY PERSPECTIVES

Outreach and engagement was integral to the planning process to ensure the Plan was rooted in the goals and objectives of the community. Engagement occurred at several points within the planning process and utilized a variety of methods to interact with project team members, stakeholders and members of the community. At the onset of this process, the COVID-19 global pandemic began to take hold of our nation. Due to the national, state, and local health guidelines which were set in place for the safety of individuals, in-person meetings, gatherings, and other traditional engagement methods were not available. The consultant and project team employed alternative methods, to maintain the effectiveness of the interactions with the stakeholders and community.

The digital/virtual engagement methods which were used are outlined as part of this section. The consultant team employed tactics such as: individual field audits by members of both the consultant and project team, interactive surveys and polls, virtual presentations and workshops, and an interactive website and social media presence to keep all interested stakeholders and community members informed.

Interactive Surveys Overview

As part of the first virtual interaction of the project, stakeholders and community members were invited to participate in two surveys. The first survey, a questionnaire, focused on the user experience on the 12 segments of the study area. The second survey centered on questions related to wayfinding. The full results of both surveys can be found in the appendix, with overviews outlined in the following sections.

Questionnaire Overview

A questionnaire was conducted to gather user perspectives on the current conditions and future of the 12 segments within the project area. Roughly 190 responses were collected, including both multiple choice and written responses. Figure 2-12 shows a heat map of which segments received the most responses and comments from the questionnaire. The questionnaire asked the following questions for each segment.

1. How do you typically travel on this street?
2. Does any of the following make your experience feel UNSAFE?
    a. The amount of traffic
    b. The speed of traffic
    c. The width of the sidewalks
    d. The amount of time I had to cross the street
3. How is your typical experience doing the following?
    a. Crossing the street
    b. Walking next to traffic
    c. Bicycling in the street
    d. Accessing the park or other destination
    e. Walking in a group
4. Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?

The following summaries the responses received from each of the twelve segments (See Figure 2-12).

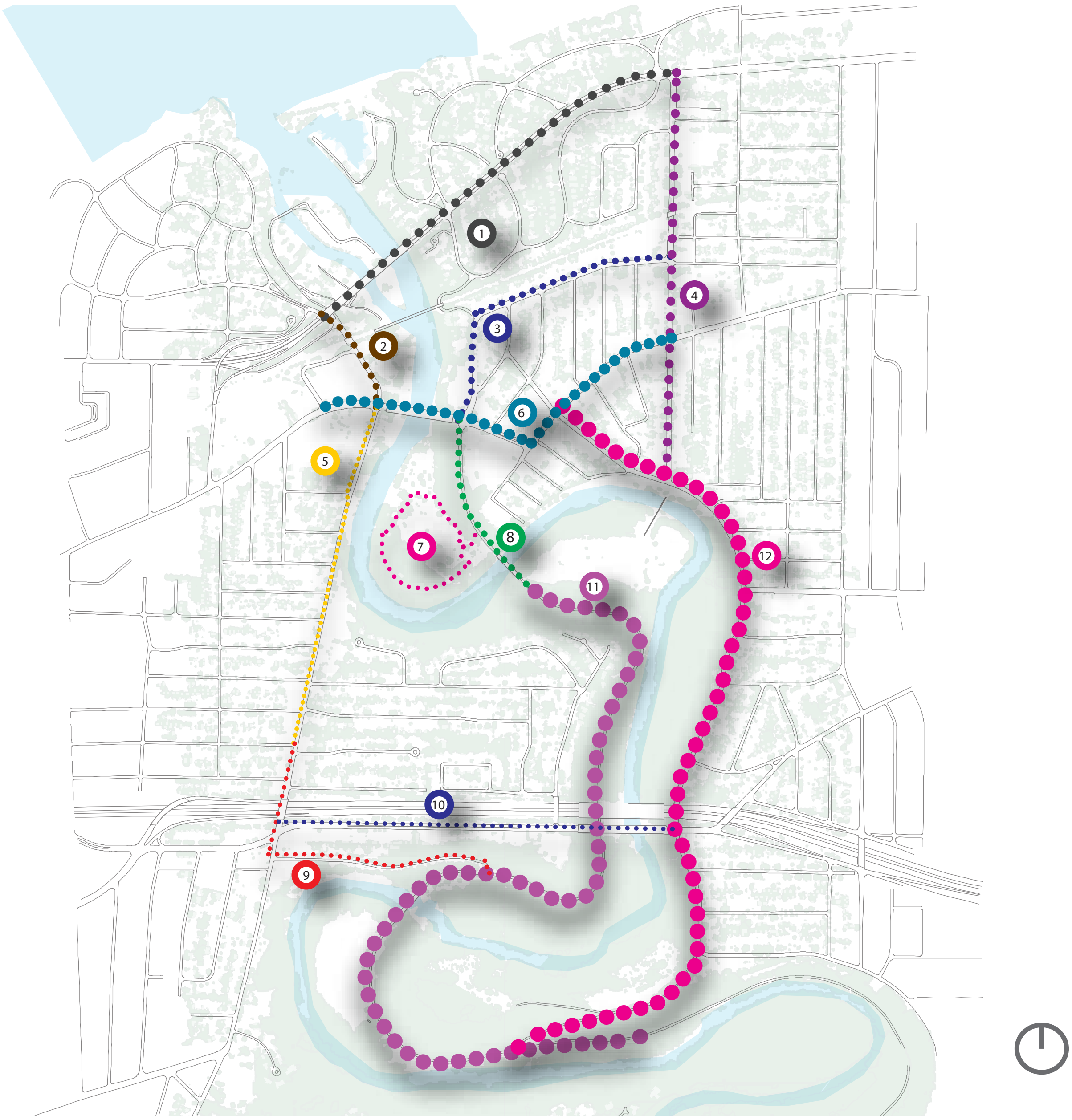
Segment 1 - Clifton Blvd.

Respondents mostly traveled on Segment 1 via bicycle and felt that the width of the sidewalks contributed to feeling uncomfortable. On average, crossing the street was most comfortable, while walking next to traffic and bicycling in the street was less comfortable. As for ideas for future improvement wider sidewalks and bike lanes (protected or otherwise)and traffic calming measures were encouraged.

Segment 2 - Lake Rd.

Responses for Segment 2 showed respondents traveled by biking, walking, and running. When asked which activity felt most uncomfortable, the results varied between the speed of traffic and the amount of time to cross the street. Respondents also indicated that bicycling in the street and accessing a destination were most difficult and signage, traffic calming, and other safety measures would serve as good solutions for future improvements.

FIGURE 2-12: Questionnaire Response Heat Map



LEGEND	
(circles of increasing size)	Response rate (the thicker the circle, the more responses received)
#	Trail segment (number corresponds to specific corridor)

Segment 3 - Sloane Ave

Respondents for segment three indicated they primarily traveled via walking, with some bicycling in the segment. Though walking, bicycling, and accessing public space was generally viewed as comfortable, crossing the street was seen generally as rather difficult. While traffic was not a major concern, the speed of traffic was raised by individuals. A painted bike lane, noise management, and intersection and streetscape improvements all were ideas for future improvements.

Segment 4 - W. Clifton Blvd.

Respondents primarily used the segment for walking, with some bicycling. Though walking and crossing the street is generally comfortable along this segment, bicycling and accessing others destinations is seen as less favorable. As it relates to safety, respondents were split on whether traffic, sidewalk width, and crosswalk conditions made them comfortable or not. Suggestions for future improvements include widening sidewalks, adding bike lanes, and managing traffic with some updated striping.

Segment 5 - Wooster Rd.

Segment five was traveled primarily by walking and running, according to respondents. Though respondents generally felt that the walking experience along roads and getting to other area of importance was fine, crossing the street and bicycling on it was seen as uncomfortable. The amount of traffic, sidewalk width, and street crossing timing did not make the experience pleasing, though respondents were split on whether traffic speed was the primary issue. Ideas for future improvements include adding bike lanes, and improving signage and wayfinding for pedestrians.

Segment 6 - Detroit Ave.

This segment was well traveled by respondents, especially through walking and biking. Though access and connectivity scored well in terms of experience, crossing, biking and walking next to or on the street had mixed reviews, with some swaying more to feeling uncomfortable. As far as experiences go, the community was split on whether traffic and sidewalk width made them feel uncomfortable or not, however, there was feedback that the time to cross the street did feel adequate. Streetscape improvements to make pedestrians and cyclists feel more comfortable were the suggestions for this segment's future improvements.

Segment 7 - Park Loop Trail

Most respondents walked and ran through segment seven. Pedestrian and biking experiences along this road were favorable, with some mixed reviews about connectivity and access. The community response was split on whether traffic and sidewalk width made them feel comfortable or not, however, there was feedback that the time to cross the street did feel adequate as far as experiences go. Improved signage and wayfinding, pedestrian amenities and added paths were ideas for future improvements.

Segment 8 - Valley Pkwy.

Segment eight was primarily traveled on as a pedestrian or cyclist. In terms of typical experiences along this segment, the community was generally split on the walking and bicycling experiences being pleasant. Crossing the street felt rather difficult, but accessing other destinations was very easy. Generally, traffic and the pedestrian experiences were seen as comfortable. Ideas for the future include addressing a blind curve, pedestrian signage to address safety, and at peak hours, the dog park is crowded.

Segment 9 - Rockcliff Entrance

The majority of respondents traveled by foot, through walking or running, for segment nine. Though access to other destinations in the area is a strong point, crossing the street, walking, and biking along the street are areas where the typical experience is fair or unpleasant. In this segment, respondents were split on their comfort level related to traffic, sidewalk width, and crossing time. Suggestions for improving this segment includes making the pedestrian environment more comfortable as well as some street parking recommendations.

Segment 10 - Hilliard Blvd.

Responses for segment ten indicate that the community primarily uses this segment for biking, running, and walking. As with other segments, access and connectivity is a strong point, but crossing the street typically feels uncomfortable. Respondents felt comfortable along the corridor, but would like to see improved bike facilities. Ideas for the future include addressing pedestrian access, sharrows, and making pedestrians feel more comfortable moving through the corridor and area.

The following are some of the fill-in responses to the survey question, "Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?".

Segment 1 - Clifton Blvd.

Wider sidewalks and protected bike lanes

Bike lanes on north and south side of street

Traffic calming measures

Segment 5 - Wooster Rd.

Painted bike lane

Add bike lane along length of Wooster

Signage for pedestrians indicate the need to cross the street soon if desired/needed.

Wooster is very narrow and cycling north is dangerous

Segment 9 - Rockcliff

Hilliard and Wooster intersection privileges vehicular traffic over pedestrian.

Make Rockcliff a no parking street

There are no sidewalks on the North side of Hilliard

Segment 12 - Riverside Dr.

The west side of Riverside is a dangerous place for bike traffic because of the blind curves

Hogsback which is in desperate need of a walking/biking lane

A crosswalk is needed at Hogsback for pedestrians.

Segment 11 - Valley Pkwy.

Segment eleven is primarily traveled by either walking, biking or running. Generally, experiences along this segment had positive feedback, however crossing and bicycling on the street were indicated as uncomfortable. Respondents were split on their comfort level regarding traffic, sidewalk width, and crossing the street. Implementing a designated lane for cyclists, creating a multimodal trail for pedestrians, and improving signage/wayfinding were suggestions for future improvements.

Segment 12 - Riverside Dr.

Respondents for segment twelve were primarily users who traveled by walking, with some cyclists using the corridor. Access and connectivity is a strong point for this area, but the community is split on whether crossing the street and walking or bicycling near or in the street is a comfortable experience or not. Traffic is seen as making the experience uncomfortable, while crossing the street is generally seen as fine. Traffic is what makes this segment uncomfortable in general so suggestions for the future include making improvements for pedestrians and cyclists such as designated biking lanes, while also improving crossing conditions.

Summary

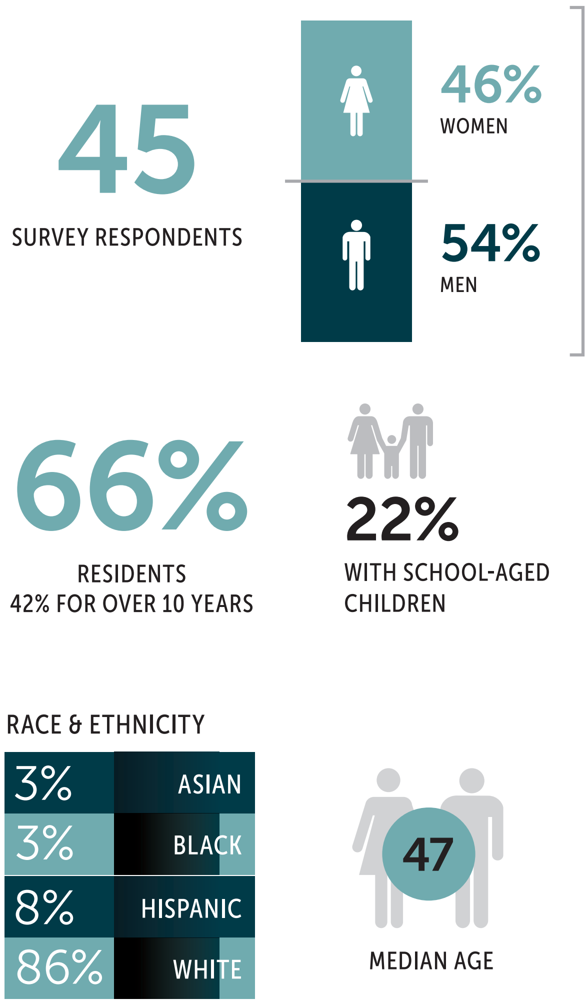
Much of the feedback received from the respondents of the survey centered around a lack of buffering between cyclists and motorists, small sidewalk widths, and traffic speeds as the primary reason for the lack of comfort within the corridor segments. Crosswalks and cross timing were another component that was mentioned in the respondent's comments. In addition, clear signage and wayfinding elements were also a contributing factor to the user's experience within the corridor segments. These comments from the survey helped the project team develop the recommendations in order to improve the user experience within the specific corridor segments.

Wayfinding Survey Results

We conducted an online survey that asked general questions regarding issues surrounding wayfinding and pedestrian/cyclist experience in the study area.

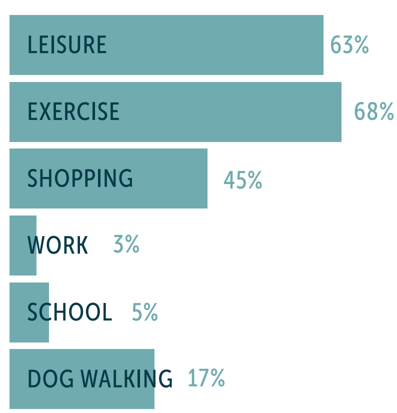
These results help give us a general understanding of existing needs as well as gauge interest level regarding various interventions.

Demographics



Usage

HOW FAR ARE YOU WILLING TO WALK OR BIKE?



THE PURPOSE OF WALKING OR BIKING IN THE STUDY AREA?

Benefits

PLEASE RATE THE BENEFITS OF A WELL-CONNECTED AND WELL MAINTAINED PEDESTRIAN/BIKE ROUTE/PATH.

	HIGHLY BENEFICIAL	NOT BENEFICIAL
Outdoor recreation & exercise	93%	0%
Access to city parks and amenities	90%	0%
Access to regional trails and other regional amenities	85%	0%
Community beautification	80%	0%
Improved Safety	90%	0%
Increased property value	65%	0%
Sustainability	85%	0%

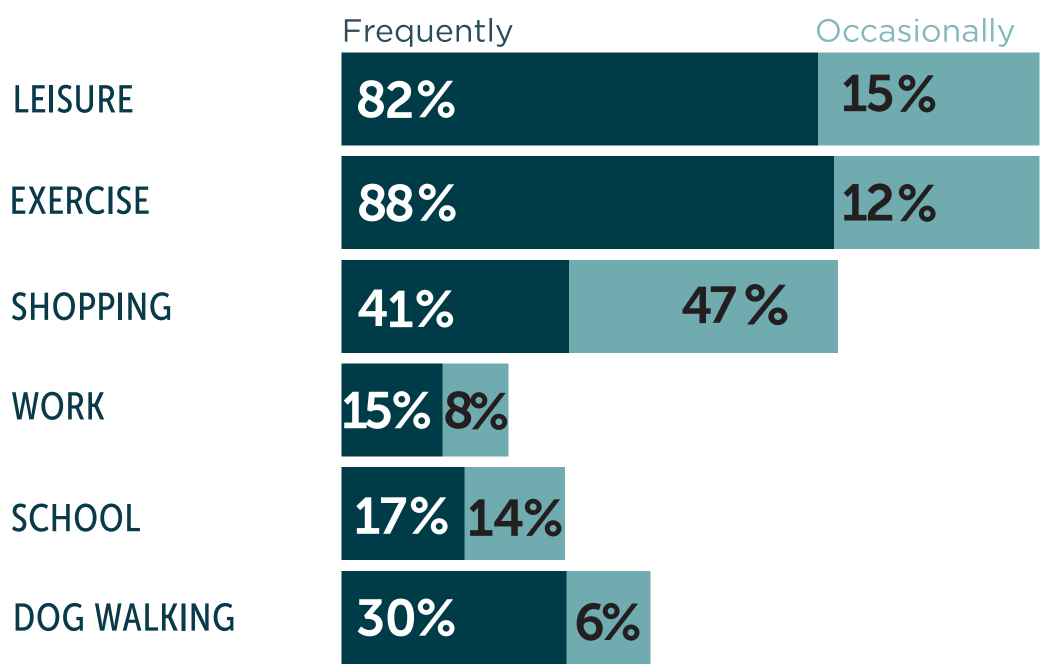
Concerns

PLEASE RATE THE FOLLOWING CONCERNS YOU MAY HAVE IN REGARDS TO CONNECTED PEDESTRIAN/BIKE ROUTE/PATH.

	HIGHLY CONCERNED	SOMEWHAT CONCERNED	NOT CONCERNED
Safety	67%	14%	19%
Lack of use	10%	31%	59%
Too much people-traffic	22%	27%	51%
Too much bike-traffic	20%	27%	53%
Too much vehicular-traffic	55%	32%	13%
Cost and maintenance	20%	42%	38%

Outcomes

IF THERE WERE SAFE, CONNECTED PEDESTRIAN/BIKE PATHS WITHIN THE STUDY AREA, HOW OFTEN WOULD YOU OR YOUR CHILDREN USE THEM FOR (COMPARED TO CURRENT USE):



Tools For Success

HOW IMPORTANT ARE THE FOLLOWING TO MAKING SURE BICYCLE AND PEDESTRIAN PATHS/FACILITIES ARE WELL-USED?

	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT
Signage & Maps	56%	44%	0%
Accessible to all abilities	73%	27%	0%
Lighting	54%	46%	0%
Events & group activities	12%	54%	34%
Bike shares and bike parking	53%	40%	7%
Vehicular parking	30%	46%	24%
Traffic signals/controls	76%	22%	2%

90%

OF RESPONDENTS WOULD BE
EXCITED TO HAVE SAFE/CONNECTED PEDESTRIAN
BIKE ROUTES AND PATHS IN THEIR COMMUNITY

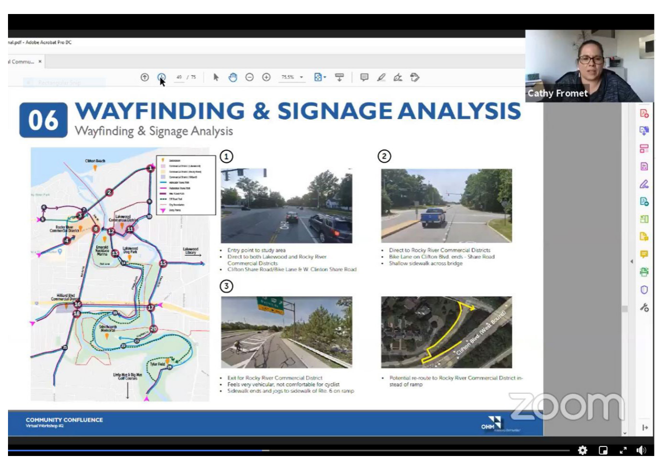
Virtual Workshops & Webinars

Over the course of the project, the project team hosted two virtual public workshops and a webinar to inform and engage with stakeholders and members of the community. Each of these events was hosted through the Zoom platform and simulcast through the County Planning Facebook page. The input received helped to inform and refine the recommendations outlined in Chapter 3. For all three events, community members, stakeholders, and facility users were made aware through postings on the project website, social media, and project team members sharing on through their own networks. Summaries of comments received from these engagements can be found in the Appendix.

The first virtual workshop took place early in the planning process and spanned a little under a month. The consultant team recorded a presentation which covered the project purpose, schedule, goals and objectives. The presentation then went over the existing conditions and corridor segments which were to be examined. Participants then took part in two surveys, the first asking questions related how they currently use and would like to use the segments in the study area. The second survey centered around signage and wayfinding, to gather more information on how users move through the area. (Results of these surveys can be found on page 40) A unique marketing approach that took place for this workshop was the creation and posting of yard signs along the existing trail paths, bike infrastructure, and sidewalks within the study area. These signs gave quick information about the project and purpose, and directed users to the project website to share and participate in the planning process.

The second virtual workshop involved the consultant and project team presenting the results and feedback from the first workshop, and unveiling the draft recommendations of the plan. Participants were able to ask questions of both teams about the results and initial draft recommendations. The recording and presentation were made available both on the project website and through the County Planning Facebook page to allow additional stakeholders, community members, and users the opportunity to view the draft recommendations and provide the team with their feedback. The questions raised by participants ranged from further clarification of the proposed recommendations to specific questions related to the current conditions. Safety for both pedestrians and cyclists was a theme, specifically for Clifton Boulevard and the Hilliard Road Bridge. Participants also encouraged exploring ways where views into the Rocky River Valley could be celebrated and enhanced.

The final engagement event was a virtual webinar where the consultant and project team presented the final plan recommendations to the stakeholders, community members and users of the study area. The event provided an opportunity for participants to give additional feedback and insight on the recommendations, and for the consultant team to address any outstanding questions from the public. Questions for participating individuals centered on next steps and implementation of the proposed recommendations. Members of the project team indicated that once the project was complete, each would begin evaluating and raising funds for their specific projects. In some cases, pairing the plan recommendations with other planned infrastructure improvements will help expedite some recommendations.



A screenshot of the virtual workshop conducted during the planning process.

Project Website & Social Media

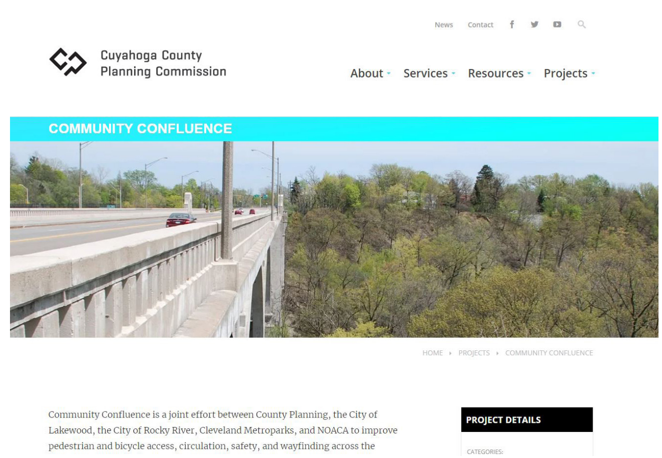
A key aspect of the engagement strategy in the planning process was a project website, and utilizing social media outlets such as Facebook and Twitter. These outlets become increasingly critical due to the restrictions and health guidelines which were in place in the midst of the COVID-19 pandemic. The website and use of social media helped communicate the planning process to stakeholders and the general public.

The project website was established as a project page of the Cuyahoga County Planning website and created a centralized location where all information related to the planning process could be accessed. The page served as the landing site to outline the goals, objectives, and schedule and where the project surveys, presentations, videos and other items related to the virtual workshops could be accessed. Interested stakeholders and community members could access the website 24/7 and could even view the virtual workshops on-demand, if they were unable to participate or view the workshops live.

Facebook and Twitter were integrated as another means of marketing and communication. The primary outlet was through Cuyahoga County Planning's Facebook and Twitter page, while other project partners also shared messaging. The virtual workshops were simulcast through the Cuyahoga County Planning Facebook page. The recorded workshops were also available on-demand through the Facebook page.

Additionally, the project team posted 25 yard signs throughout the study area with interactive codes which connected users to the project website. The signs also included a phone number where users could call in and leave messages to the project team.

Various social media outlets and other web-based programs were incorporated into the community and stakeholder engagement.



A screenshot of the project website page from Cuyahoga County Planning Commission's website.

KEY FINDINGS

From the robust existing conditions analysis to the extensive community engagement including project surveys and virtual workshops, the project team identified the following key findings which helped to inform the plan recommendations in Chapter 3.

- There are several recommendations from previous planning studies which are desired by the community and address gaps in the overall active transportation system. These include:
    - An all-purpose trail along Wooster Road.
    - An all-purpose trail along Hilliard Boulevard.
    - The City of Lakewood desires a biking facility along Riverside Drive however, the narrow bridge pavement width over the I-90 bridge presents challenges. Therefore, recommendations provided reflect diverting the path to avoid the bridge crossing.
- Overlaying the planned facilities listed above with existing facilities highlights the study area's active transportation gaps, where the Community Confluence plan must focus its attention.
- The bridge connections (Clifton Boulevard, Detroit Road, Hilliard Boulevard), in their current configurations, are unanimously felt to be unsafe and unpleasant for cyclists and pedestrians to traverse.
- Recommendations must be feasible in the short and long term. Quick, low-cost, short-term options for large, longer-term capital improvements will provide early wins for the public.
- The entrance into the Rocky River Reservation from Rockcliff needs improvement for pedestrian and cyclists entering the reservation.
- The exit and entrance ramps on Clifton Boulevard, west of the bridge are hazardous for cyclists on Clifton Boulevard to cross.
- The intersection of Clifton Boulevard and West Clifton Road for both cyclists and pedestrians, feels unsafe and is difficult to navigate due to the double intersection with Clifton Road.
- The Hilliard Boulevard and Wooster Road intersection for both cyclists and pedestrians feels unsafe due to the wide right-of-way and lack of facilities for both users.
- The trail crossing on Valley Parkway, south of the Lakewood Dog Park, needs improvements, to enhance visibility and safety for trail and dog park users.
- The Detroit Road/Sloane Avenue/Valley Parkway intersection is oversized and uncomfortable for cyclists and pedestrians to cross. The intersection also is an opportunity for improved gateway treatments into both cities and the reservation.
- Bridges over and roads along the Rocky River Valley present opportunities for capitalizing on dramatic views of the valley and Lake Erie.

The view from the Detroit Rd. bridge looking on the Emerald Necklace Marina and the Rocky River.

03

Recommendations

03

RECOMMENDATIONS

OVERVIEW

The recommendations outlined in the following chapter were chosen and developed based on the feedback obtained through the public workshops, discussions with the project team, and existing condition data. Within the study area, several of the road corridors contain existing active transportation facilities, and other corridors' multi-modal improvements have been planned. Therefore the recommendations developed build on the existing network to either complete the overall network or improve the facility type to provide greater accessibility to user types. The implementation of these recommendations will continue to advance the connections into and through the reservation and neighboring cities, but also provide critical linkages in the overall county and regional wide network.

Since typical traffic patterns and volumes were significantly reduced by COVID-19 stay-at-home orders, the consultant team analyzed the traffic implications of preliminary recommendations based on existing traffic data, instead of collecting new traffic counts.

PLAN RECOMMENDATIONS

Since the street network is fully established and all parcels are developed or spoken for within the study area, the addition of any active transportation (AT) facility must occur along existing roadway corridors. Adding facilities requires the reconfiguration of existing streets, sidewalks, and/or tree lawns. The recommendations for each of the following corridors are unique, since the proposed reconfigurations respond to the needs of the AT network, the needs of the adjacent land uses and property owners, and constraints within the corridor.

The recommendations that resulted from the Community Confluence efforts are located along the following corridor segments: (See Figure 3-1)

A. Clifton Boulevard & Lake Road

B. West Clifton Road

C. Riverside Drive

D. Madison Avenue to Hilliard Bridge Connection

E. Hogsback Lane

F. Wooster Road/Hilliard Boulevard/Rockcliff Drive

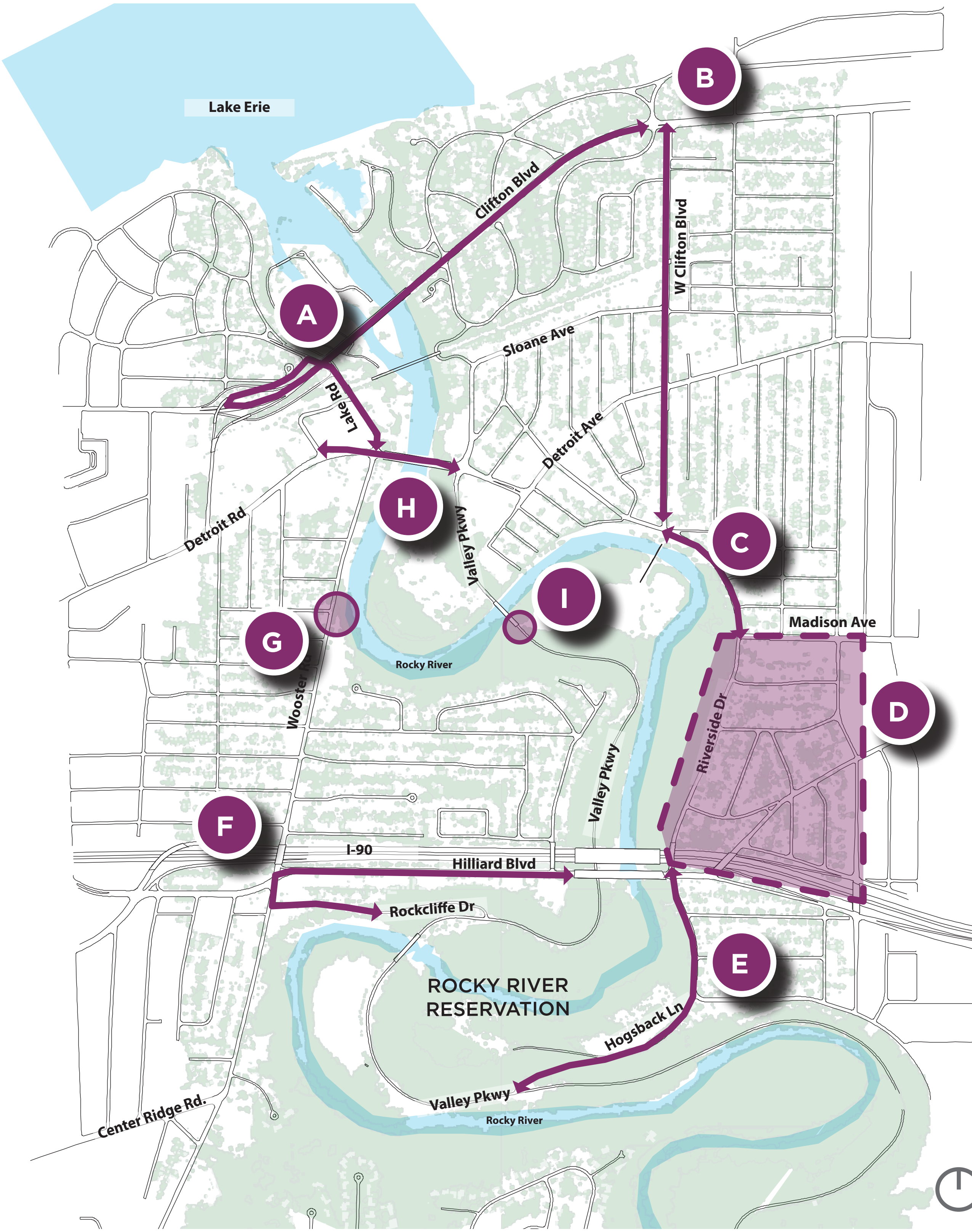
G. Wooster Road Overlook

H. Detroit Road Bridge

I. Valley Parkway

The following pages provide a detailed description of each proposed corridor modification, urban design improvement and wayfinding recommendation.

FIGURE 3-1: Network Connectivity Map for Community Confluence Study Area



A. Clifton Boulevard & Lake Road

Clifton Boulevard

Clifton Boulevard is an important segment of the region's effort to connect a comfortable bike route along the entire coast of Lake Erie as part of the Lakefront Bikeway. It is also a critical connection within the Community Confluence study area, as an important east-west connector for those traveling on the north side of Lakewood, Rocky River and beyond.

In 2015, Lakewood striped separated bike lanes from Lake road to Clifton Road. While these have been successful, they do not continue over the bridge to the west or connect to other facilities to the east, ending abruptly at Lake Road. Clifton Boulevard between Clifton Road and Lake Road lacks sidewalks and those traveling on foot often use the separated bike lanes for walking. Continuing over the bridge, the sidewalks are narrow and uncomfortable for people walking directly adjacent to vehicles traveling at high speeds. The sidewalk on the south side of the bridge ends abruptly at the eastbound on-ramp.

Clifton Boulevard has excess vehicle capacity and an inconsistent cross section that varies from two vehicle travel lanes in each direction to one vehicle lane in each direction, twice within the one-mile section in the study area. The following recommendations simplify this cross section with one consistent travel lane in each direction throughout the study area and dedicated turn lanes where needed. These changes create space to be repurposed as multimodal space to include sidewalks, bike lanes, traffic calming landscaping, and shared use paths. The traffic analysis supports these changes that the conversion of travel lanes would not have a significant impact on traffic flows.

Clifton Boulevard Bridge

Clifton Boulevard has a four-lane cross section on the bridge which spans the Rocky River Reservation. To the east and west of the bridge, the boulevard narrows to a two-lane section. As a near-term improvement, one travel lane in each direction on Clifton Boulevard bridge is repurposed and provides a two-way separated bike facility on the north side of Clifton Boulevard. This takes advantage of the views out to Lake Erie and the bikeway will also act as a buffer between narrow sidewalks and high speed motor vehicle traffic. Traffic analysis conducted confirms that existing and forecasted traffic volumes will operate at an acceptable level in the proposed two-lane configuration.

View looking westbound on Clifton Boulevard just before the bridge crossing.

In the near term installation (see Figure 3-2), quick build materials can be installed to make the bikeway connection across the bridge and consider future improvements. "Quick-build" refers to projects that can be installed without significant concrete work that is costly and results in ripple effects to the drainage systems and accessibility. Materials used in the quick-build projects typically include lane striping, plastic flex posts, surface mounting curbs, signage, and planters. In the future, repurpose the north half of the bridge as a wide sidewalk (14 feet) and a permanent separated two-way bike lane, with a landscape buffer (see Figure 3-3). This section would be raised and separated from the travel lanes and act as a linear park connecting the Cities of Lakewood and Rocky River. This improvement would also better accommodate pedestrians and bicyclists across the bridge, and provide a unique view of Lake Erie.

The traffic analysis conducted supports the proposed recommendations and there would be minimal traffic impacts (see page 80)

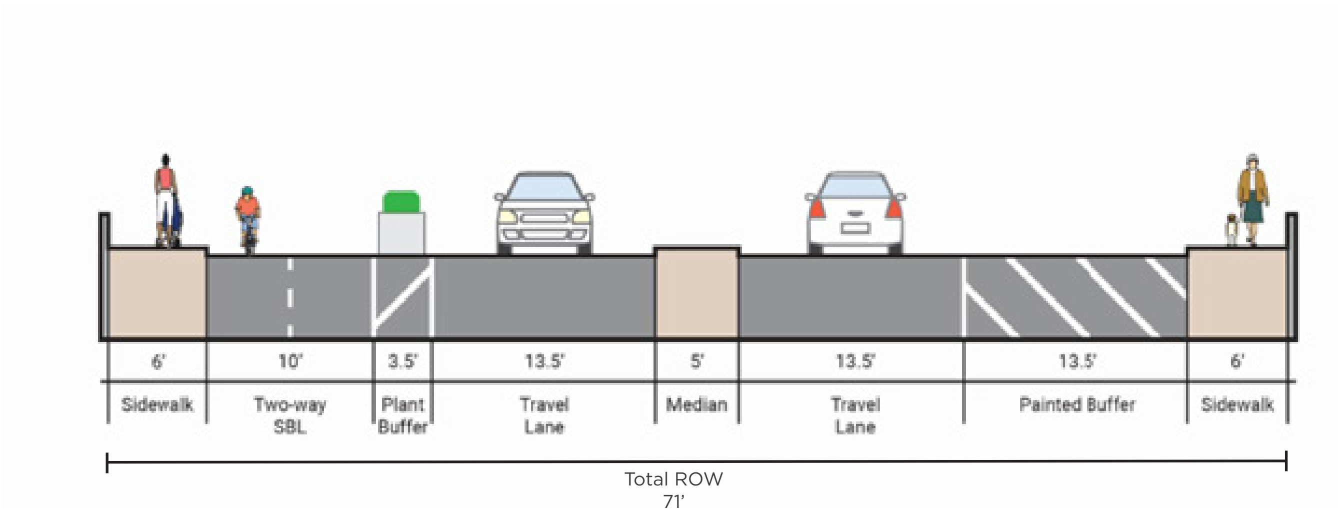


FIGURE 3-2: Clifton Boulevard Bridge Section - Short-term (looking eastbound)

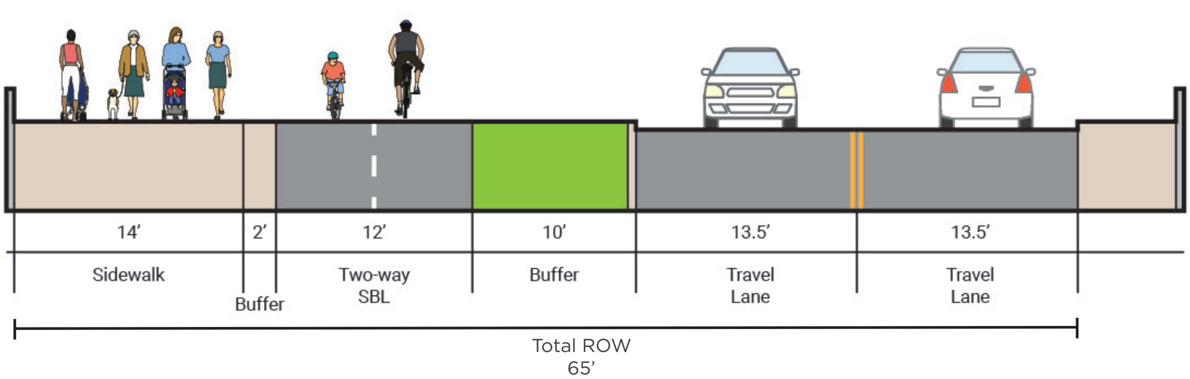
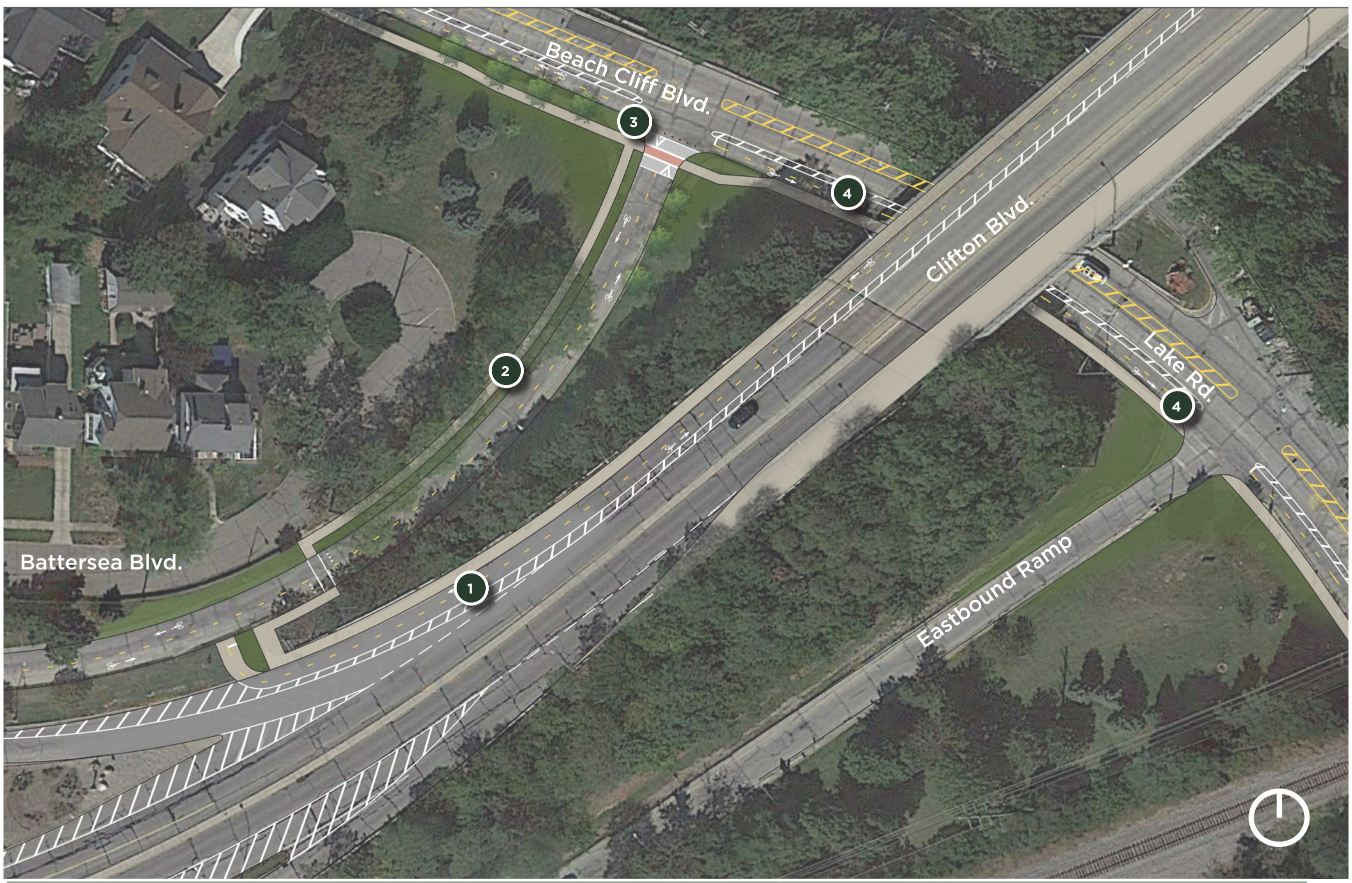


FIGURE 3-3: Clifton Boulevard Bridge Section - Long-term (looking eastbound)

Lake Road

Focusing on the west side of the bridge, bicyclists would access Lake Road through the North Ramp on the north side of Clifton Boulevard shown in Figure 3-4. This would only be an intermediate solution as the long-term plan (the Detroit Road Traffic, Parking Analysis and Marion Ramp Feasibility Study (2015)) eliminates the Marion Ramp and adjusts the South Ramp to accommodate two-way traffic with an intersection at Lake Road. This will provide bicyclists with a connection to Lake Road and the Rocky River Business District. This condition would extend northward along Beach Cliff Boulevard heading westbound to connect to Lake Road on the western side of Clifton Boulevard Bridge.



LEGEND			
1	Two-way separated bike lane; Clifton Boulevard recommendation (See Figures 3-3 & 3-4)	3	Enhanced pedestrian crossing
2	Shared use path along North Ramp	4	Two-way separated bike lane; Lake Road recommendation (See Figure 3-6)

FIGURE 3-4: Clifton Boulevard & Lake Road Intersection Plan

Along Lake Road, the recommendation is to establish a more inviting and safer connection between the new bike facilities on Clifton Boulevard Bridge and the Rocky River Business District on Detroit Avenue by installing a parking separated two-way bike facility (see Figure 3-5). Placing parking between the bike lane and vehicle travel lanes acts as a solid protection for bicyclist and reduces conflicts between people parking cars and people bicycling. In the future, a protected intersection at Lake Road and Detroit Road should be considered to facilitate comfortable bike crossings and connect to the future bike facilities on the south side of Detroit Road Bridge and the east side of Wooster Road.

View of the intersection of Lake Road, Wooster Road and Detroit Road near the Old River Shopping District

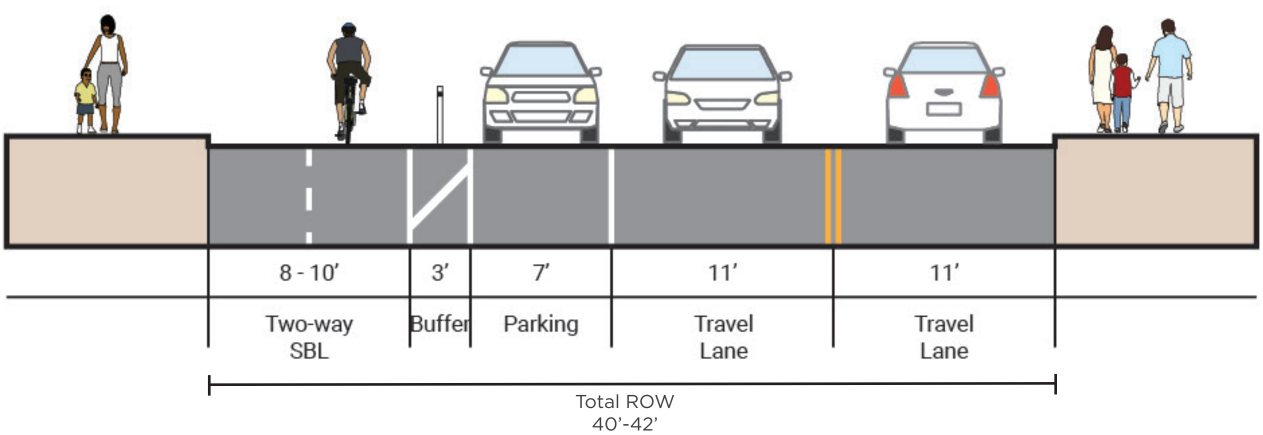


FIGURE 3-5: Lake Road Proposed Section (looking northbound)

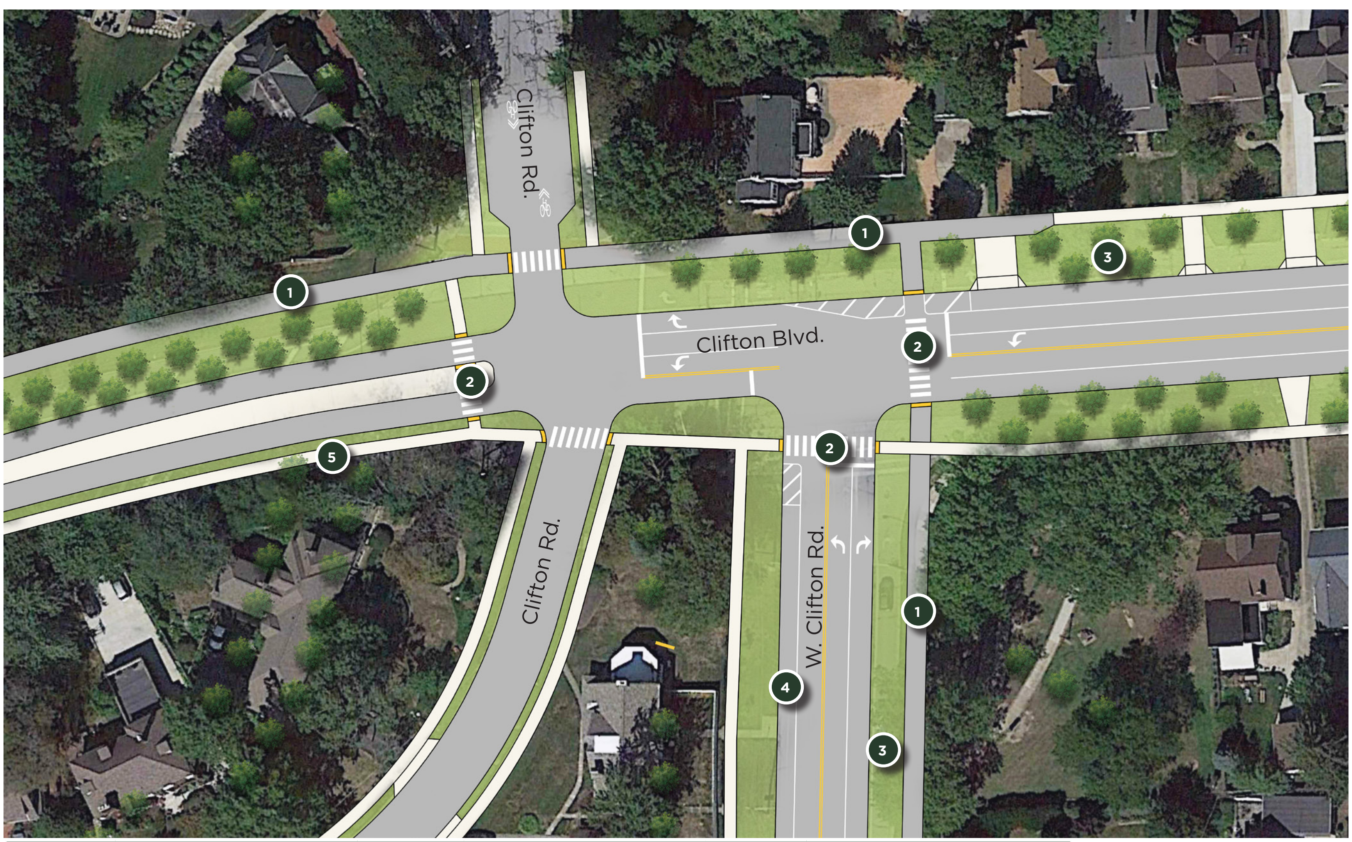
B. West Clifton Road

To the east of the Rocky River Valley, on the east side of the bridge, transition the on-street protected bike lane and bridge sidewalk into one multimodal path on the north side of Clifton Boulevard. This provides both a bicycle and pedestrian accommodation extending from Lake Road and West Clifton Road. Here, bicyclists have the option to turn north along Clifton Road to continue east along Lake Erie or south onto West Clifton Road to enter the center of Lakewood.

The intersection of West Clifton Road, Clifton Boulevard, and Clifton Road is complex and improvements to simplify this intersection will help pedestrians and bicyclists to efficiently navigate through it. The intersection can be improved for people walking and biking by reducing the space dedicated to vehicle traffic and aligning high-visibility crosswalks with new multimodal paths on West Clifton and Clifton Boulevard. Reducing and narrowing vehicle travel lanes at the intersection will result in shorter pedestrian crossing distances and reduced potential conflict points between pedestrians and turning vehicles. The traffic analysis conducted confirmed that the proposed changes will not significantly impact traffic movement or operations and will create space for proposed bicycle and pedestrian improvements.

Clifton Boulevard:

- Reduce through travel lanes from existing four lane configuration to proposed two lane configuration
- Consolidate the two left turn lanes into one.
- Shorten the right turn lane leading to Clifton Road.



LEGEND					
1	Shared use path	3	Widen tree lawns	5	Additional sidewalks
2	New crosswalks	4	Parking lane		

FIGURE 3-6: Clifton Boulevard & West Clifton Road Intersection Plan

IMAGE 3-1: This aerial depicts how the recommendations for Clifton Boulevard, Lake Road, and West Clifton Road tie into the existing bicycle infrastructure on the eastern side of the Clifton Boulevard Bridge and the west side of Clifton Boulevard beyond the study area.

Beginning the turn lane after the crosswalk reduces the crossing distance and potential conflict points at the crosswalk.

- Install painted or concrete curb extensions to passively enforce parking setbacks and improve visibility for pedestrians in crosswalks.
- Install a pedestrian crossing island in the middle of the crosswalk on the west side of the intersection.

West Clifton Road:

- Consolidate the double southbound receiving lanes into one.
- Install painted or concrete curb extensions to passively enforce parking setbacks and improve visibility for pedestrians in the crosswalks.
- Consolidate the double right turn lane into one lane.

For the West Clifton Road corridor widen the existing sidewalk into a shared use path on the east side (see Figure 3-7). This shared use path maintains on-street parking along the corridor while enhancing a link between Detroit Avenue and Clifton Boulevard.

The traffic analysis conducted supports the proposed recommendations and there would be minimal traffic impacts (see page 81)

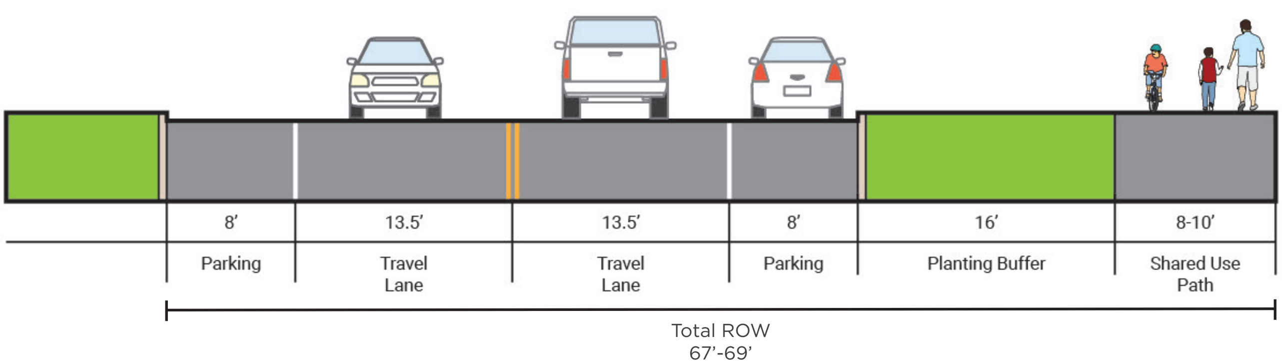


FIGURE 3-7: West Clifton Road Proposed Section (looking northbound)

C. Riverside Drive

Due to the topography in the area, Riverside Drive collects many major streets and is an important bike connection. Riverside Drive also has the long term potential to become a community amenity as a destination street overlooking the Rocky River Reservation. In the near term, connect bike facilities on W Clifton Road with Madison Avenue to complete the bike network. To achieve this, install a two-way separated bike lane on the west side of the street. This placement both takes advantage of the views into the river valley and avoids conflicts with existing parking, side streets, and frequent driveways. (See Figure 3-8) Left turn lanes and parking needs can be accommodated within this design as needed based on localized parking utilization and traffic analysis.

In the future, consider extending the Riverside Drive bike facility north to Detroit Road and south to Hilliard Boulevard. At this time, also consider upgrading the two-way bike facility to a shared use path so that people on bicycles and on foot can enjoy it in greater comfort. (See Figure 3-9) The width of the bike lane and landscaped buffer can vary to accommodate left turn lanes as necessary and based on additional traffic analysis.

View of the Riverside Drive corridor as it is currently configured

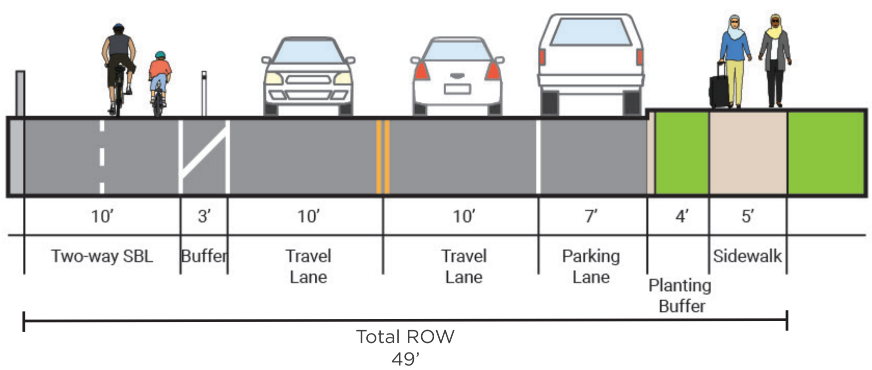


FIGURE 3-8: Riverside Drive Proposed Section - Short-term (looking northbound)

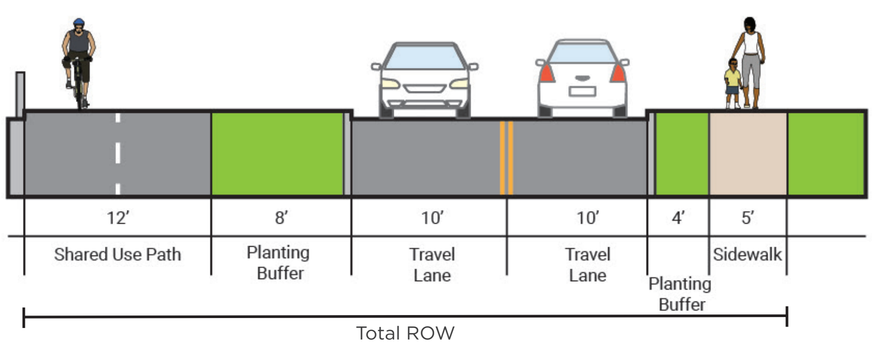
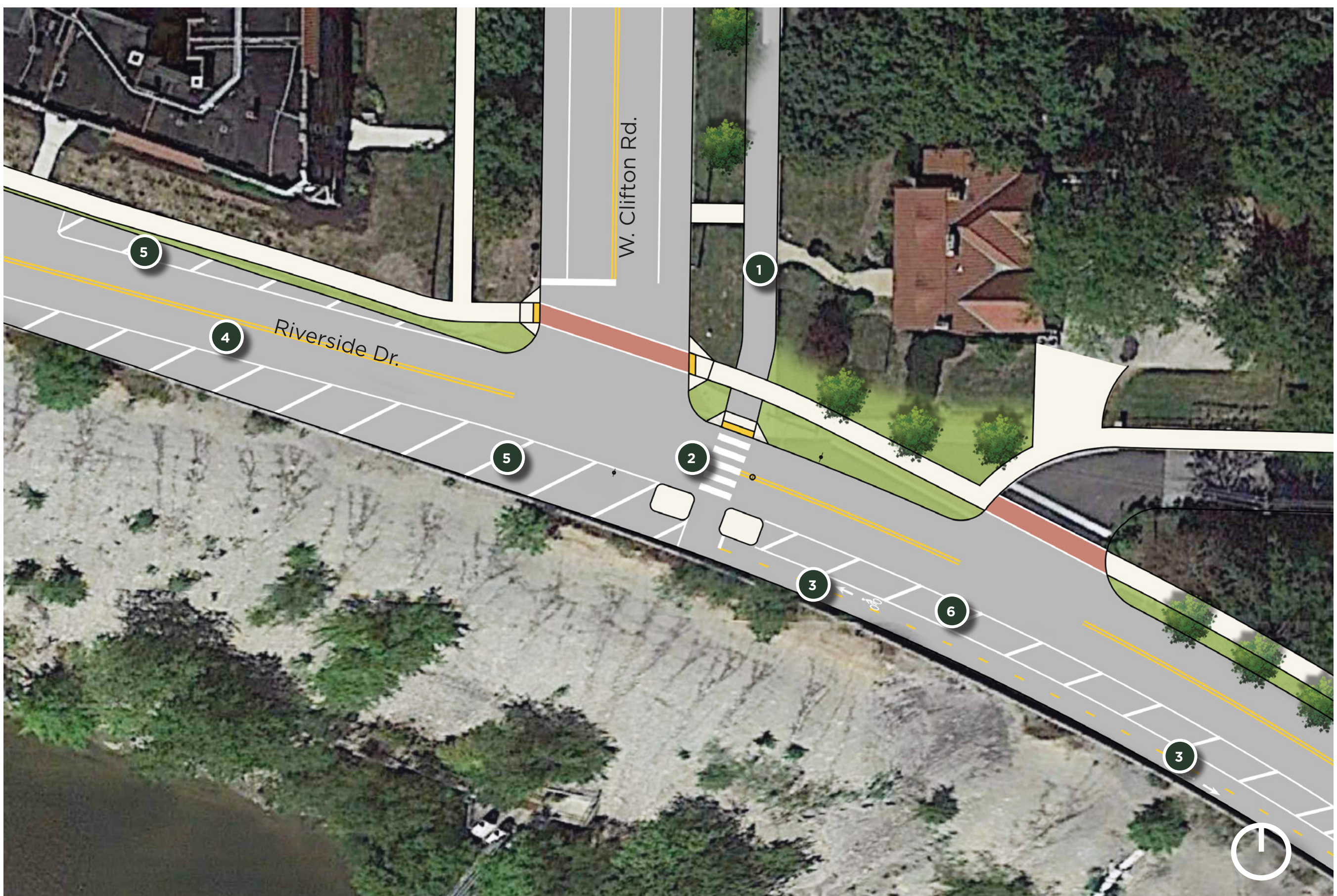


FIGURE 3-9: Riverside Drive Proposed Section - Long-term (looking northbound)

While the bike facility placement on the west side of Riverside Drive eliminates the parking, intersection, and driveway conflicts that would be present with a bike facility on the east side of the street, one challenge with this placement is that people accessing the path will need to cross Riverside Drive.

Consideration should be given to enhancing the pedestrian crossing treatments at all intersections along the route using FHWA STEP guide and NOACA's Trail Crossing Typology to provide appropriate pedestrian crossing countermeasures. The example at West Clifton shows narrowed travel lanes through pavement markings, changes to the curb line and a crossing island on the south side of the intersection.

Additional traffic analysis is required to further understand the traffic impacts of these proposed recommendations (see page 85)



LEGEND

1	W. Clifton Road shared use path (see figure 3-7)	3	Two-way separated bike lane; Riverside recommendation (see figures 3-8 & 3-9)	5	Transition buffer
2	Bike and pedestrian crossing for shared use path	4	Existing sharrows	6	Bike lane buffer zone (see figures 3-8 & 3-9)

FIGURE 3-10: Clifton Boulevard & West Clifton Road Intersection Plan

D. Madison Avenue to Hillard Bridge Connection

The southeastern portion of the Community Confluence Study Area is an important junction of planned, recommended and on-going projects. Riverside Drive provides access into the Rocky River Reservation and Hilliard Boulevard is the link between Lakewood and Rocky River. Figure 3-11 shows the proposed network and connections, and how a user would navigate through the area.

The purple lines on the map are the plan recommendations found in this chapter for Riverside Drive and Hogsback Lane. The orange lines indicate the planned infrastructure projects on Hilliard Boulevard (shared use path), Hilliard Road (bike lanes), and McKinley Avenue (sharrows). The proposed improvements for Hilliard Boulevard come from the Rocky River Master Plan which calls for a shared use path along the southern portion of the roadway. Later in this section (page 62), this recommendation is discussed and shown. The bike lanes and sharrows on Hilliard Road and McKinley Avenue, respectfully, are called out in the City of Lakewood Bike Plan.

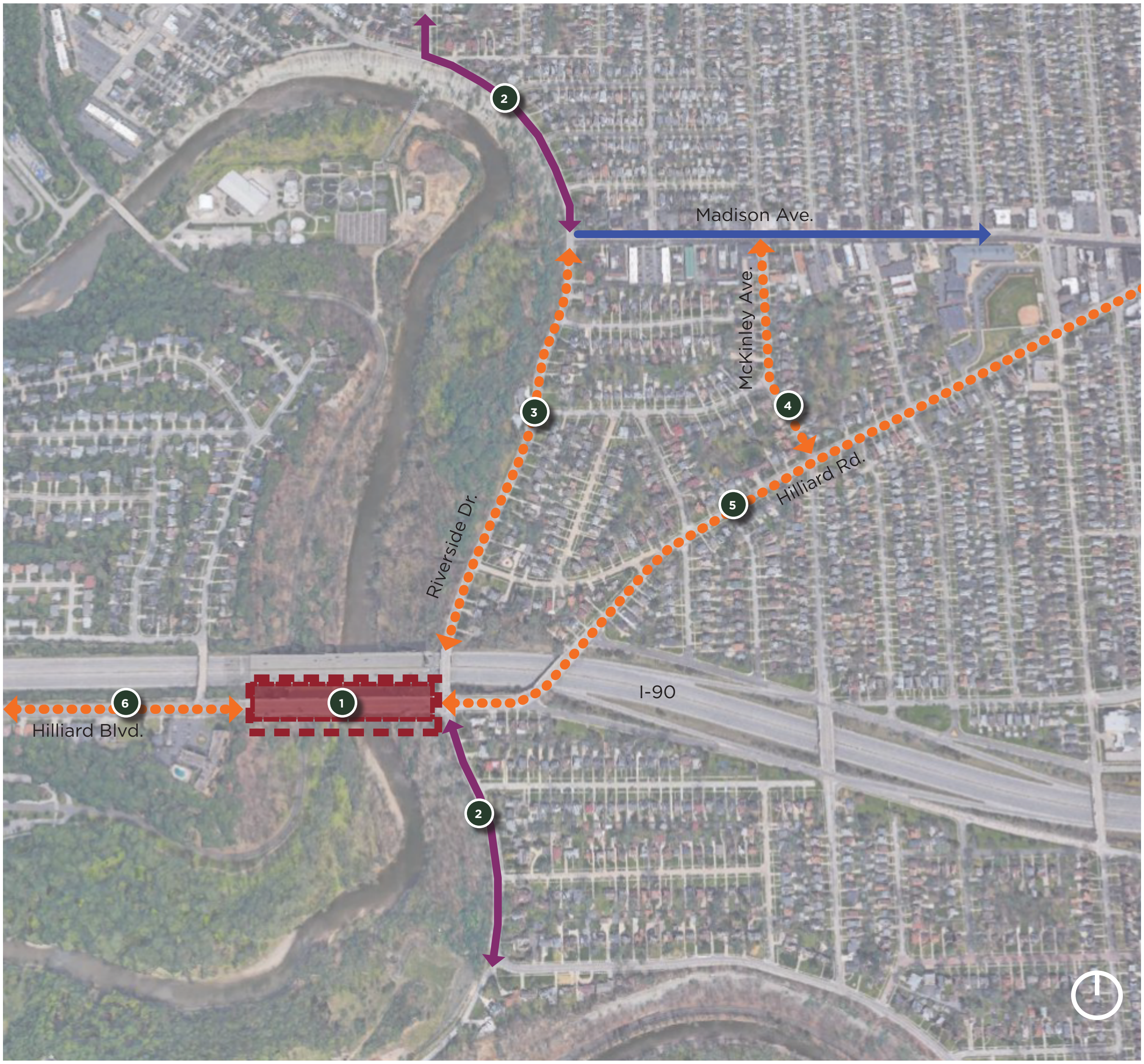
The red box highlights the proposed Hilliard Bridge improvements as part of a separate effort being lead by the City of Lakewood, Cuyahoga County, NOACA, and ODOT. Overall improvements include replacing the bridge; bicycle and pedestrian improvements were under development when this report was finalized.

The portion of Riverside Drive between Madison Avenue and Hilliard Boulevard will also be further explored by the City of Lakewood as an additional connection along the Riverside Drive corridor and across the Interstate 90 bridge to connect to the planned recommendations for Hogsback Lane.

Additional traffic analysis is required to further understand the traffic impacts of these proposed recommendations (see page 85)

View of the intersection of Riverside Drive and Hilliard Boulevard looking eastbound just after the bridge.

FIGURE 3-11: Riverside Drive, Madison Avenue, and Hilliard Boulevard Bridge Aerial



LEGEND					
Blue arrow	Existing Bike Lane	1	Planned Hilliard Blvd. Bridge Replacement	4	Planned Bike Infrastructure (Sharrows)
Orange dotted arrow	Planned Infrastructure (from existing plan documents)	2	Riverside Dr. Plan Recommendation	5	Planned Bike Infrastructure (Bike Lanes)
Purple arrow	Community Confluence Plan Recommendation	3	Planned bike connection (to be studied)	6	Planned Bike Infrastructure (Shared Use Path)

E. Hogsback Lane

The location of Hogsback Lane makes it a gateway into the Rocky River Reservation for users from the southeast portion of the study area. This section has long been sought to have improved bicycle and pedestrian connections but the topography and soil conditions make improvements challenging.

The proposed improvements (see Figures 3-13, 3-14, and 3-15) include a shared use path along the western edge of Hogsback Lane to match the proposed condition along Riverside Drive. The following page displays the section details for Riverside Drive (both short and long term) and on Hogsback Lane. This improved shared use path will provide safe and equitable access along the corridor and into the Rocky River Reservation. Additionally, improvements to the existing roadway and a reconfigured parking area on Valley Parkway would also take place. Also included is a mini roundabout at the intersection of Riverside Drive as shown in the figure below. These recommendations come from the 2007 TLCI Hogsback Lane Access study, and are supported by Cleveland Metroparks.

LEGEND			
1	Shared use path (See Figures 3-13, 3-14, and 3-15)	3	Reconfigured existing parking
2	Mini roundabout intersection		

FIGURE 3-12: Riverside Drive & Hogsback Lane Site Plan

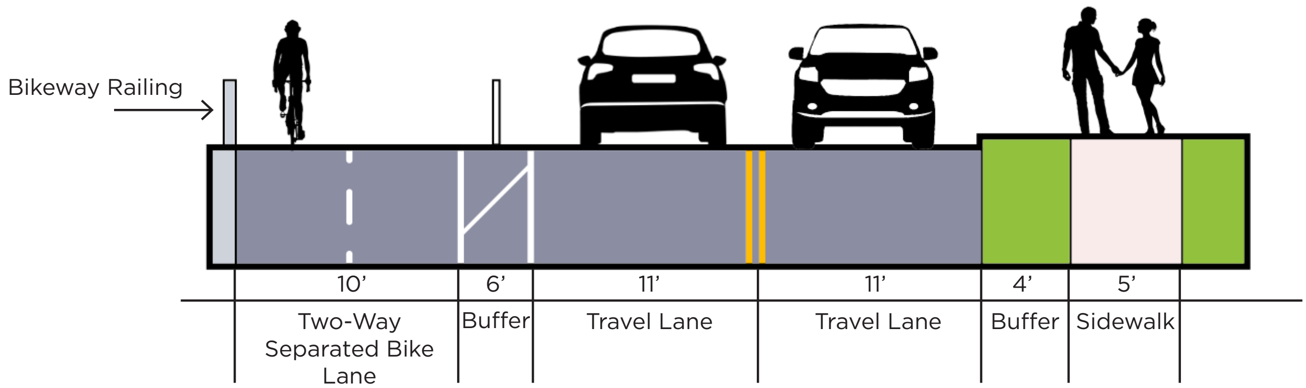


FIGURE 3-13: Riverside Drive Proposed Section - Short-term (looking northbound)

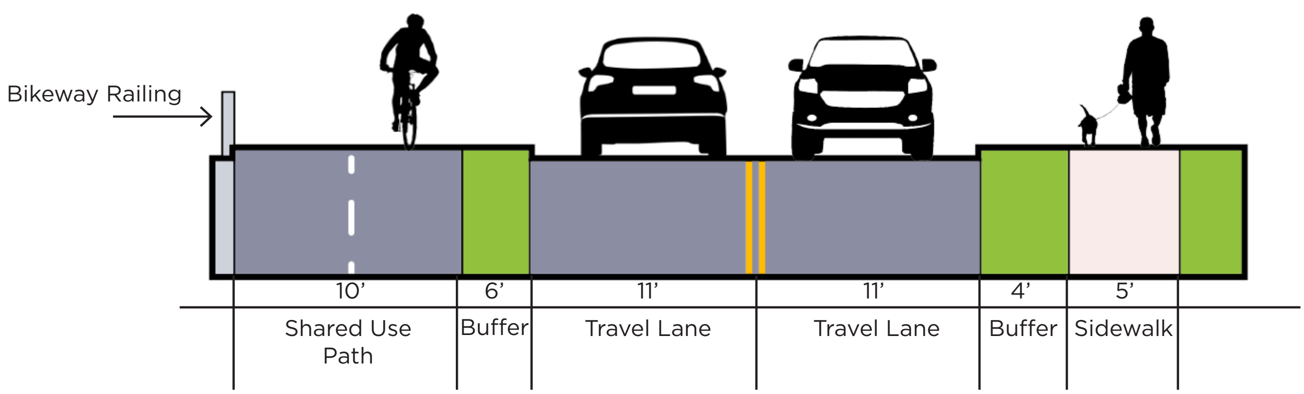


FIGURE 3-14: Riverside Drive Proposed Section - Long-term (looking northbound)

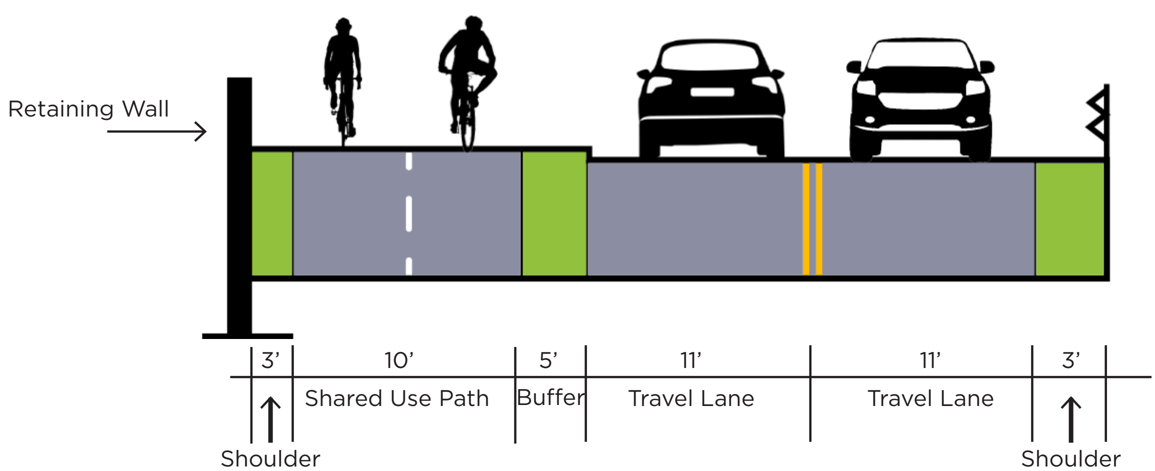


FIGURE 3-15: Hogsback Lane Proposed Section (looking northbound)

F. Hilliard Boulevard, Wooster Road, and Rockcliff Drive Intersection

Hilliard Boulevard

Create a safer and more accommodating Hilliard Boulevard and bridge by installing a multi-use path on the south side of the road by reducing the number of travel lanes from four to two along Hilliard. Install new trees along the path, which have a traffic calming effect, provide shade, and create a more human scale environment.

Hilliard Boulevard and Wooster Road Intersection

The configuration of this intersection currently makes the movements of pedestrians and bicyclists difficult with the lack of visibility and distance to cross. The recommendation looks to create a more people friendly environment at Hilliard Boulevard and Wooster Road by removing the uncontrolled slip lane, tightening up the turning radii, and continuing the shared use path that is proposed on the eastern side of Wooster Road through the intersection and connect to Rockcliff Drive and the entrance to the Rocky River Reservation. The traffic analysis completed in 2020 as part of the Hilliard

LEGEND

1	Wooster Road multi-use path	3	Hilliard Boulevard multi-use path	5	Connection to reservation entrance
2	Enhanced crosswalk for bicyclists and pedestrians	4	Raised crosswalk		

FIGURE 3-16: Hilliard Boulevard, Wooster Road, and Rockcliff Drive Intersection Plan

Road Bridge Traffic Analysis Technical Memorandum indicated that the proposed changes shown in Figure 3-16 demonstrated the feasibility of this new lane configuration, and will not significantly impact traffic movement or operations. Further, this new lane configuration will create space for the proposed bicycle and pedestrian improvements.

Hilliard Boulevard:

- Remove the uncontrolled slip lane that results in conflicts with pedestrian movements.
- Integrate a right turn lane into the signal.
- Reduce the travel lanes leading to the intersection from two in each direction to one in each direction.

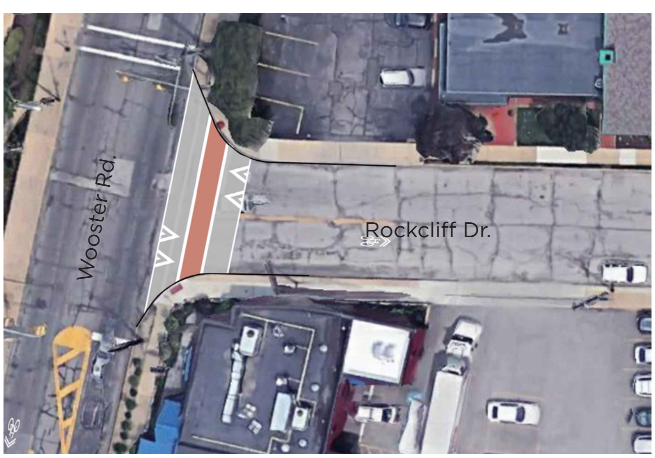
Wooster Road:

- Reduce the travel lanes leading to the intersection from two in each direction to one in each direction.

With the changes listed above, Wooster Road and Hilliard Boulevard can both accommodate a generous multi-use path leading to the entrance to the Rocky River Reservation.

In the near term, Rockcliff Drive can be improved by installing a raised crosswalk and wayfinding signage. This gateway treatment is a signal to people driving that they are entering a space that is prioritized for bicyclists and pedestrian movement and safety. The image below highlights the raised crosswalk feature.

The traffic analysis conducted supports the proposed recommendations for Hilliard Boulevard and there would be minimal traffic impacts (see page 82)

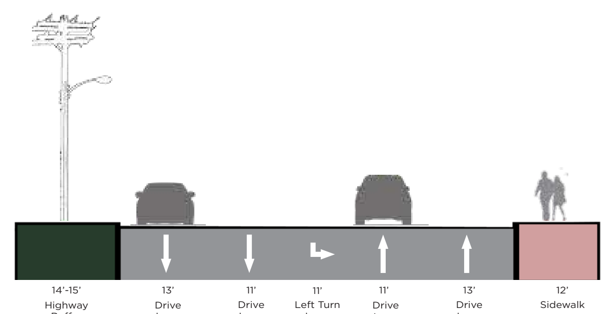


A raised crosswalk can be implemented in the short term to improve safety and elevate the entrance to the Reservation.

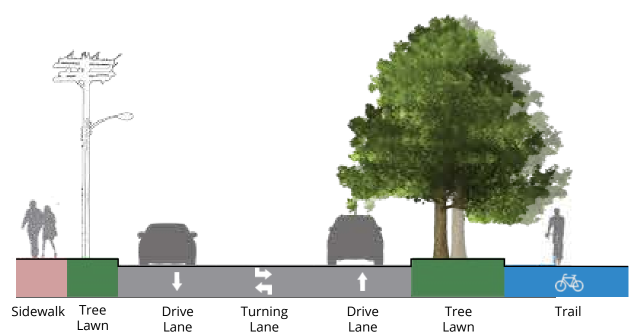
Wooster Road

The Rocky River Master Plan identified the installation of a multi-use path on the east side of Wooster Road which would provide a continuous, high-comfort bike connection from the Rocky River Business District to the Rocky River Reservation entrance on Rockcliff Drive.

Additional traffic analysis is required to further understand the traffic impacts of the proposed Wooster Road recommendations (see page 82)



The existing typical street section for Hilliard Blvd from the City of Rocky River Master Plan report.



The proposed typical street section for Wooster Road from the City of Rocky River Master Plan report.

G. Wooster Road Overlook

From the dynamic meandering of the Rocky River, to the viewsheds from the Detroit Road Bridge, and from the lowland forest to the steep stone bluffs, the Rocky River corridor is defined by the drama of the natural landscape intersecting with urban development. These elements provide a unique identity which is shared between the Cities of Rocky River and Lakewood which this plan recommends celebrating through strategic urban design improvements.

The east side of Wooster Road, at the intersection of Dorothy Avenue, presents an exciting vantage point to view the Rocky River valley. Building from the all purpose trail proposed by the Rocky River master plan, the addition of an overlook along Wooster Road will provide an opportunity for residents and visitors to engage with the natural landscape in an enriching and meaningful way. The conceptual design for this overlook, pictured on the next page, integrates into the proposed bikeway and includes landscaping, plaza space, site amenities and views into the Rocky River corridor. It is envisioned this will attract users both to admire views of the corridor, but also to pause during recreation, or to meet with others in a public gathering space. This site may include interpretive signage which can convey the narrative of the historic and current condition of the natural landscape.

Design details will be determined during the next phases of design, and this concept illustrates the integration of plantings which are native to the region, as well as the integration of a signature element into the paving which depicts an aerial layout of the corridor.

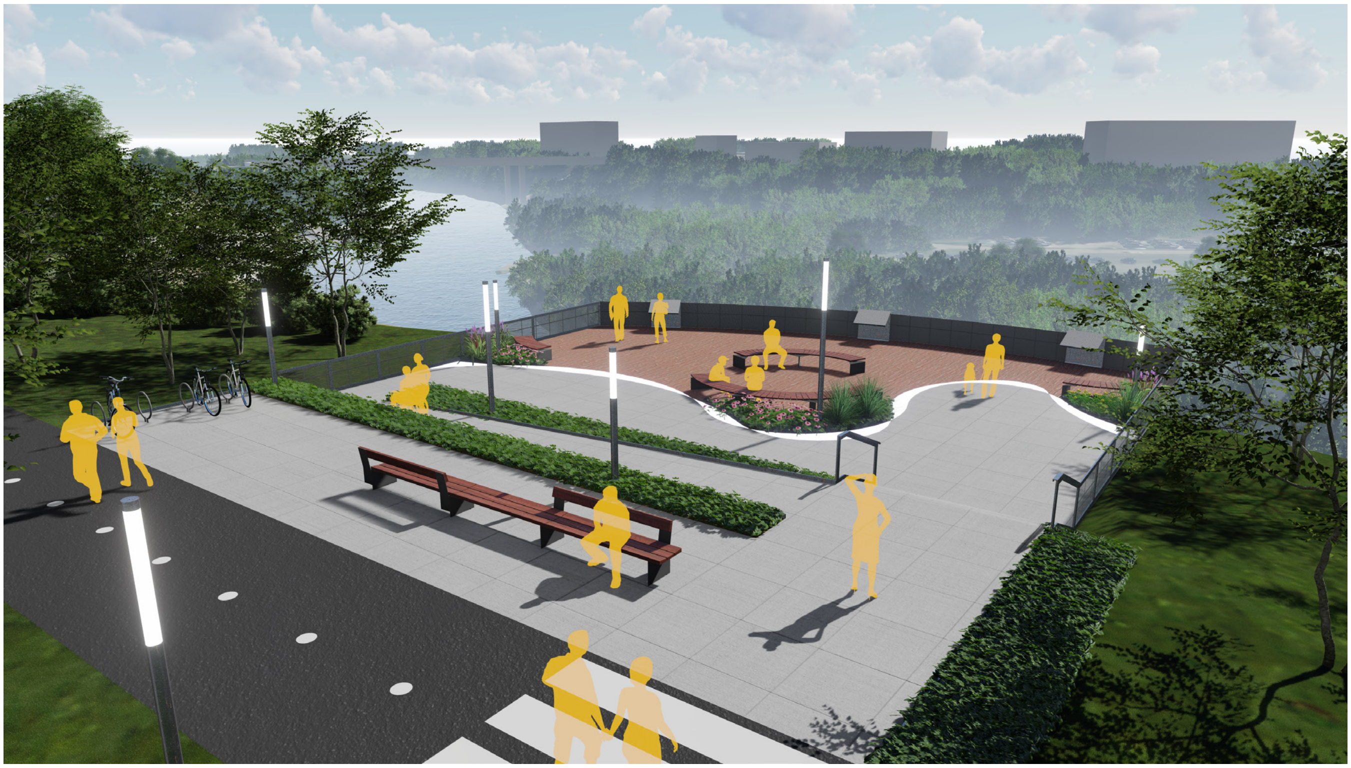


FIGURE 3-17: Wooster Road Overlook Daytime Rendering (looking northeast)

FIGURE 3-18: Wooster Road Overlook Nightime Rendering (looking north)

H. Detroit Road Bridge

The Detroit Road bridge currently serves as the key vehicular conduit between one of Lakewood's and Rocky River's primary commercial corridors, but with the right improvements, could become a people-friendly destination, in and of itself. The bridge provides a unique opportunity to celebrate the natural assets and beauty of the Lake Erie shoreline, to the north, and the Rocky River Valley to the south.

This plan's pedestrian and non-motorized recommendations integrate the Detroit Road Bridge as a key linkage between Rocky River and Lakewood. The design of this improvement can facilitate efficient travel, but also create a unique destination. The sidewalk can be expanded at the same elevation using wood or wood-composite decking, giving the bridge a boardwalk feel. Design of fencing and guardrails can allow a high level of visibility to capitalize on the viewsheds through the corridor. The existing concrete sidewalk can be expanded to allow for more pedestrian traffic and provide places for rest and passive recreation. Incorporation of plantings and raised planters will soften the currently impervious terrain. Successful implementation will not only provide a unique space for the adjacent cities, but will provide a national case study for retrofitting historically car-dominant infrastructure to reflect contemporary best practices of placemaking and walkability.

Additional traffic analysis is required to further understand the traffic impacts of these proposed recommendations (see page 84)

The view looking north from the Detroit Road Bridge.

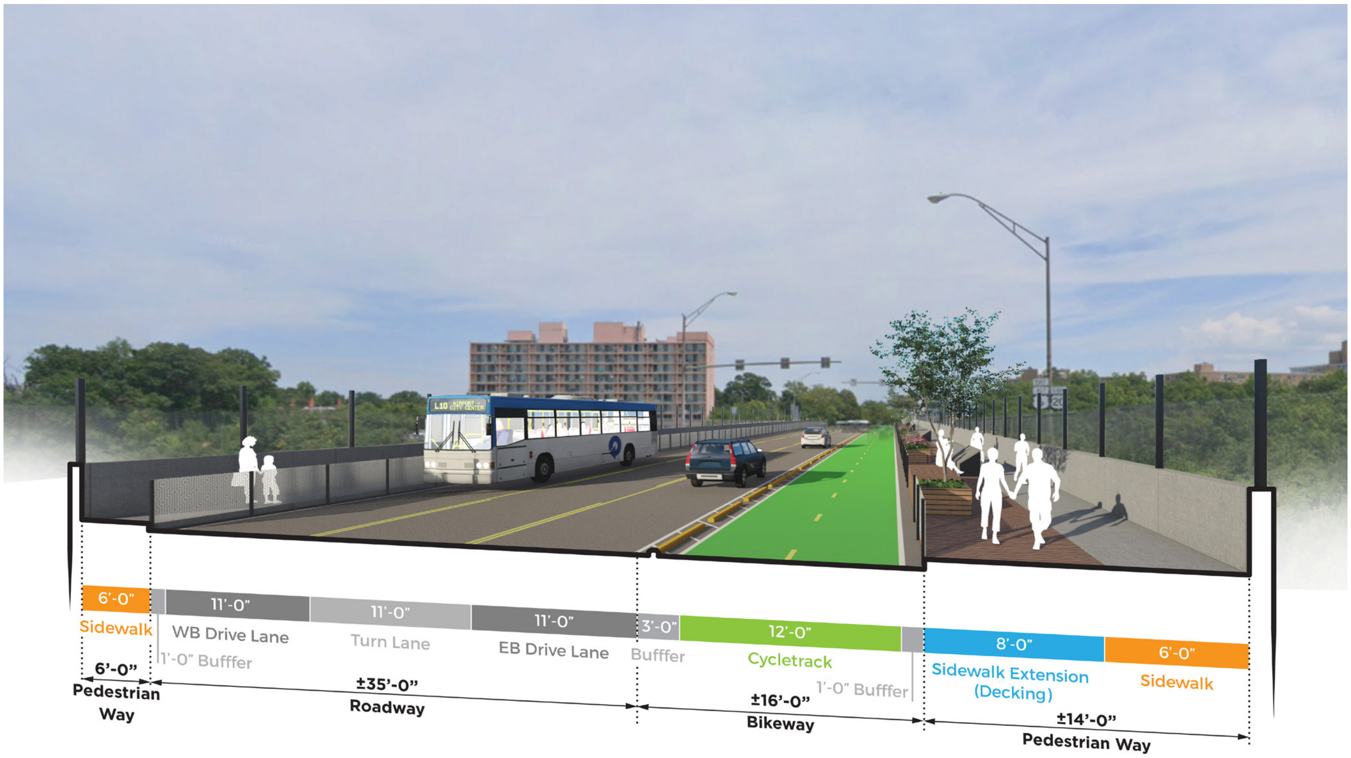


FIGURE 3-19: Detroit Road Bridge Section (looking eastbound)

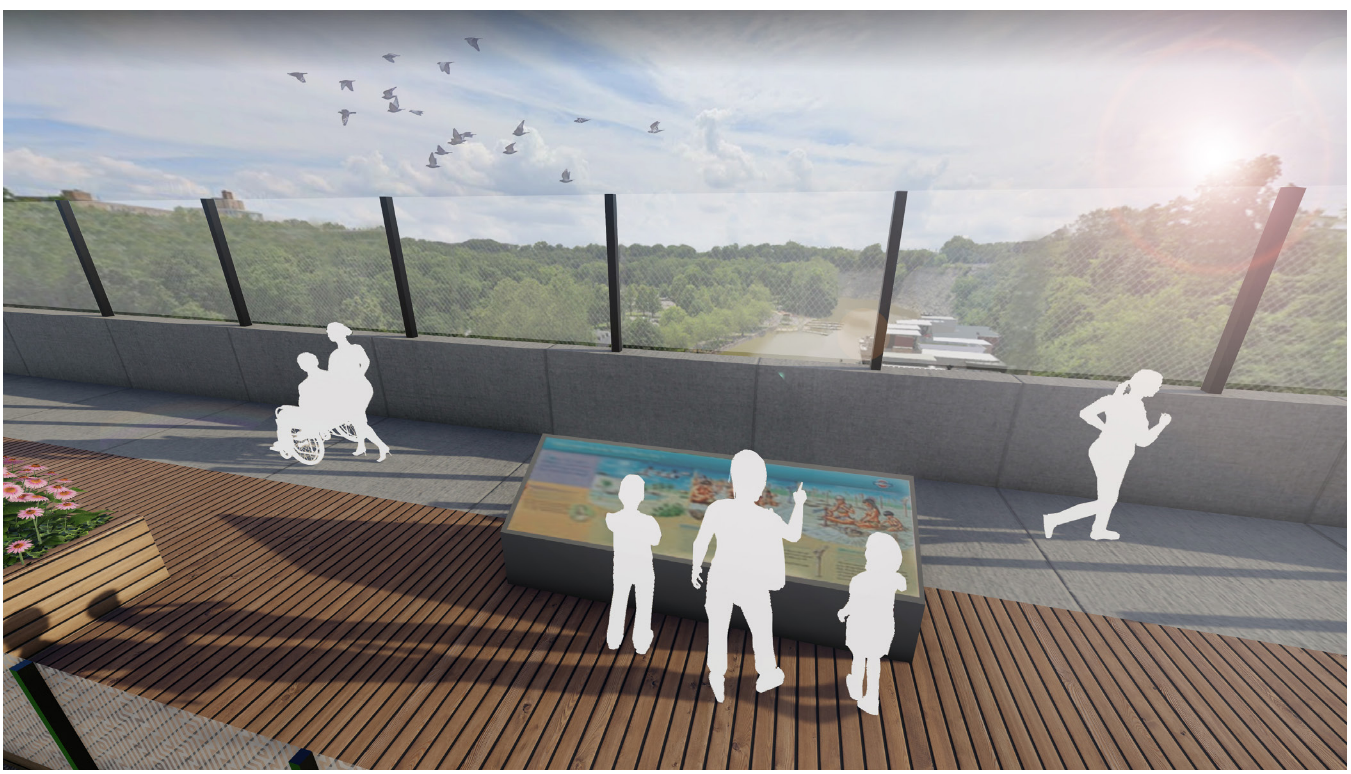


FIGURE 3-20: Detroit Road Bridge Overlook Perspective

I. Valley Parkway Improvements

During the existing conditions analysis and public engagement portion of the planning process, the Emerald Necklace Trail and accompanying facilities received high praise from both stakeholders and community members. Many of the comments spoke to motorists not abiding by the speed limit and requests for additional mile markers and other wayfinding signage.

One improvement recommendation comes in the form of improving the existing pedestrian crosswalk at the intersection of Valley Parkway and the entrance to the Lakewood dog park. The trail runs along the western edge of the parkway and users need to cross Valley Parkway in order to continue along the trail and to access the entrance for the dog park. However, the existing crosswalk is faded and motorists frequently speed. Painting a new crosswalk and adding a Rectangular Rapid Flashing Beacon (RRFB) which is actuated by users to notify motorists to stop for a pedestrian in the crosswalk can be a simple and cost-effective implementation to improve safety and connectivity. Figure 3-21 shows an example of the type of installation that would take place at this location. Additionally adding advanced yield markings and signage prior to the RRFB crossing would increase the visibility of the crossing to motorists. Cleveland Metroparks is also considering other adjustments to this section of the trail to improve user experience and safety.

FIGURE 3-21: An example image of the Rectangular Rapid Flashing Beacons (RRFB)

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Wayfinding Recommendations

When it comes to place-based experiences, setting expectations and consistently delivering throughout the entire experience is critical in creating positive impressions.

When we are talking about place, audiences, no matter how distinctive, share common ground in the sequence of time. Every experience can be defined in three categories: before, during, and after.

Connection with a place begins before arrival, and continues after leaving, but one of the first physical interactions a visitor has with a place is signage.

Signage occurs in the during–those in-the moment touch-points that a visitor interacts with as they experience your place. The touch-points signage and wayfinding address are arrival, direction, orientation, identification, engagement and departure. Paying close attention to these touch-points can create a positive perception, or if ignored, can leave a lasting negative impression regarding the safety, comfort, value and relevance of your place.

When you approach or travel through your community, what does that experience look and feel like? Is it nice? Unique? Does it tell visitors where they are? Or is it underwhelming, confusing, frustrating?

Putting yourself in your visitors' shoes will allow you to see the gaps in your user continuum that can then be addressed to provide a better experience. Understanding and managing the touch points in each sequence of time "before-during-after" is critical to presenting a great experience and lasting positive impression. The more touch points you can influence to meet the needs of your audience at each of these steps, the more successful the total experience can be.

Connect people to place.

Wayfinding programs are developed for the purpose of helping people understand how to effectively move from place to place in support of the greater experience.

Consistency is key.

Shape, color, naming, symbols, placement, etc. used consistently from one place to another help to ensure trust and confidence in the information presented. These visual cues provide strong connections for the people who encounter them.

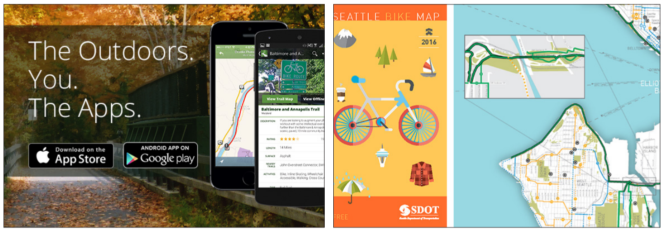
Present information inclusively.

Present information for multiple levels of knowledge and experience. Use best practices for signage and wayfinding information which have been studied and tested for this purpose.

Keep it simple.

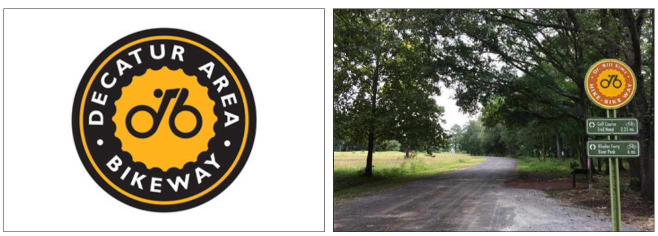
Too many choices for someone who is new and unfamiliar to an area can overwhelm and foster confusion and mistrust. Use best practices for signage information to help prioritize the information that will mean the most to new users.

OFF SITE TOOLS



Maps & Apps (Enhanced)

Gateway Signs (Enhanced)



Brand/Logos (Enhanced)

Bike Route Sign (Fundamental)

ON SITE TOOLS

Map Kiosk (Enhanced)

Directional Sign (Fundamental)

Confirmation Sign

Interpretive (Enhanced)

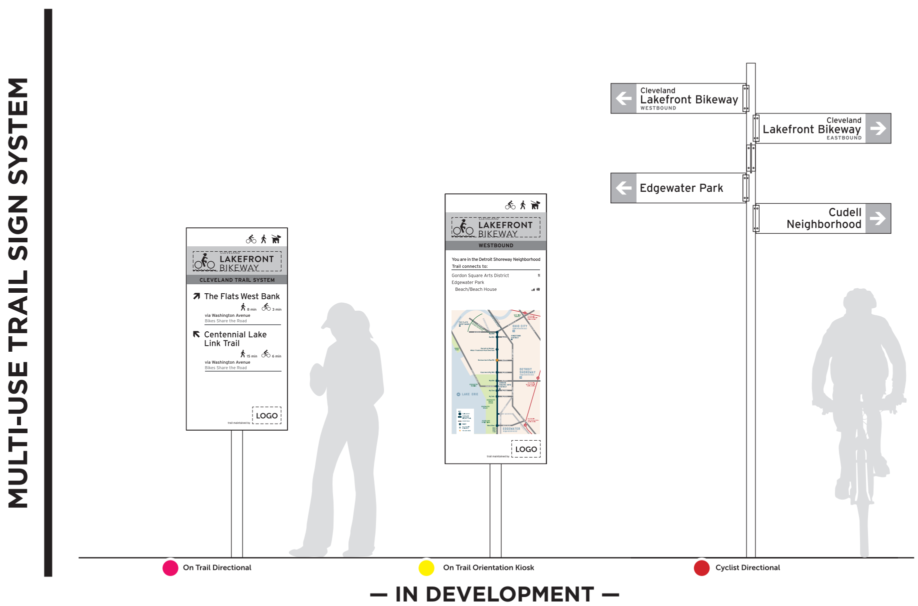
We have consider the types of signage each community is already using and paired that with insights from the Wayfinding and Context Analysis to determine what sign types work best for the Study Area.

CLEVELAND TRAILS SIGN SYSTEM

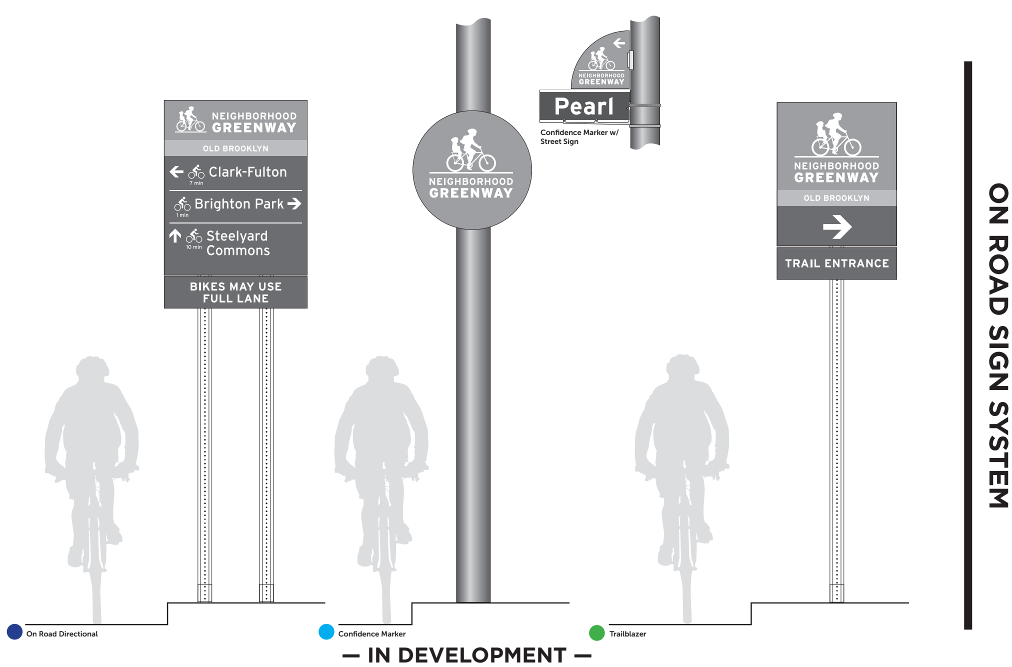
Over the past three years, Destination Cleveland, Cleveland Metroparks, Cuyahoga County Planning Commission, and the City of Cleveland have been working together to establish a standard sign system that will encourage and support alternative travel (ie. walking and biking) within the City of Cleveland and throughout communities in Cuyahoga County.

This wayfinding system uses standardized structures, nomenclature, information hierarchy, colors and symbology so that pedestrian and cyclist users throughout the county will recognize the sign system as one for them — a sign program that is safe to follow, connecting them to city and neighborhood amenities, and other on and off-road trails.

Unique trail identities may be represented on signs via color-coding on signs and white logo.



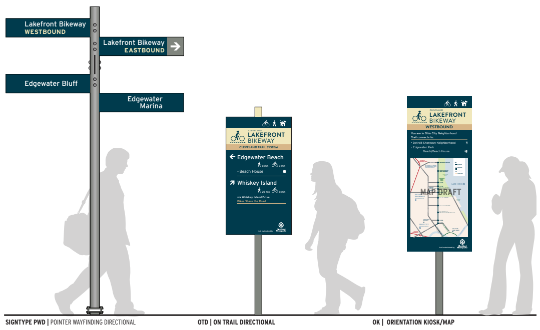
This system is meant to guide on road bike lanes and on road connections between trails. Neighborhood Greenway represents part of a larger county-wide greenway system. A band along the top indicates what City or Neighborhood your are in for appropriate orientation.



WAYFINDING RECOMMENDATIONS

Areas of Use

Cleveland Trails Sign System



For roads/trails where exisiting or proposed networks connect across cities and neighborhoods, we recommend utilizing the newly developed Cleveland Trails Sign System. This program can be adapted to highlight a new trail (with color coding or brand) and should be adapted for more connective on-road experiences.

Cleveland Metroparks Sign System

For roads/trails deep within the park system, we recommend continuing the use of Metroparks Signage but at point of entry/exit, the Cleveland Trails Sign System can be used to guide to city/ neighborhood amenities.

Rocky River Sign System

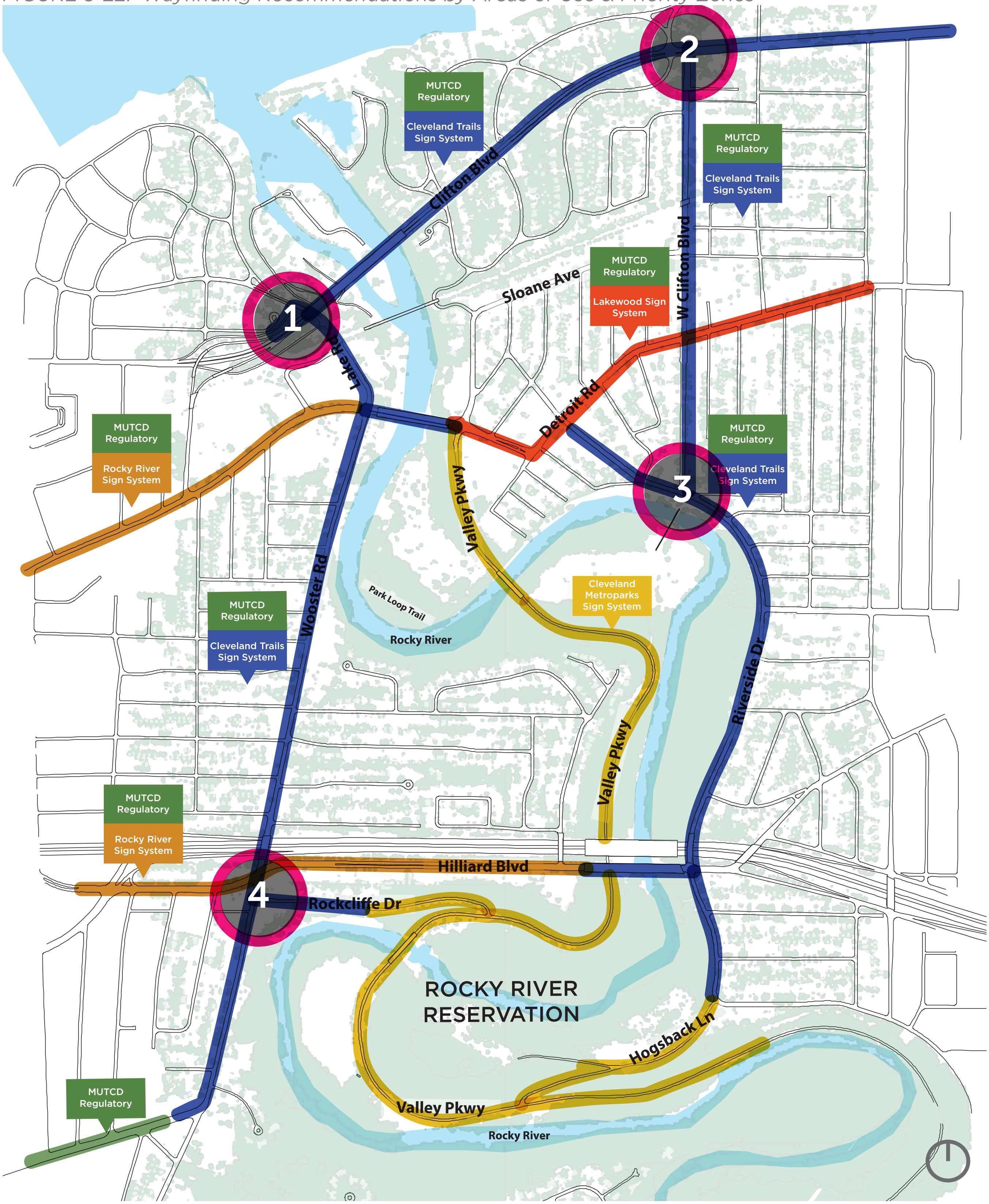
Lakewood Sign System

For commercial corridors with heavy multimodal access and a need to be recognized as a specific city district, we recommend sign programs be established that represent the city and needs of the area. Sign types meant to speak to vehicles, cyclists and pedestrians are recommended.

MUTCD Regulatory

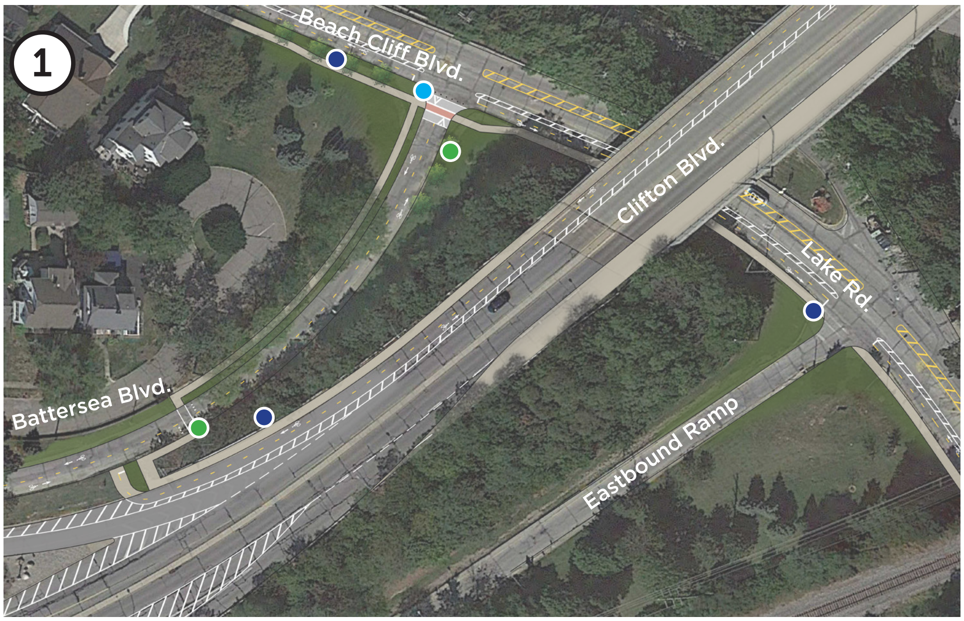
In all on road/share road instances, specialty sign programs such as the Cleveland Trail Sign System will be accompanied by regulatory signage that is universally used to control and regulate traffic between multiple modes of travel. This includes pavement markings.

FIGURE 3-22: Wayfinding Recommendations by Areas of Use & Priority Zones



DECISION POINTS

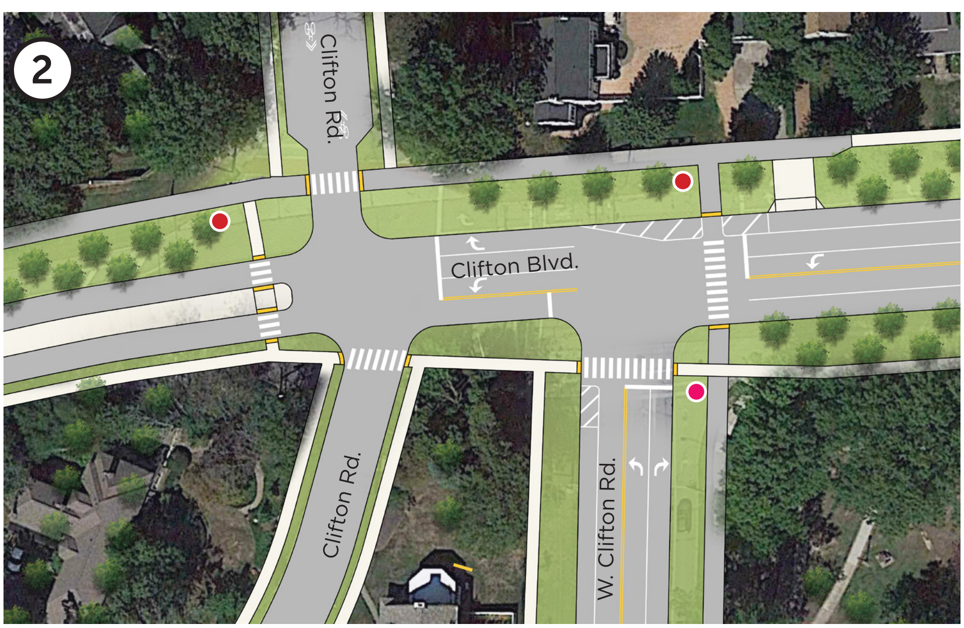
Decision points are where the user must make a wayfinding decision. The dots represent key decision points for users within the identified zone. Sign placement will help the user navigate to their next location or continue on their current path.



Clifton Boulevard & Lake Road

On Road Signs
- On Road Directional
- Confidence Marker
- Trailblazer

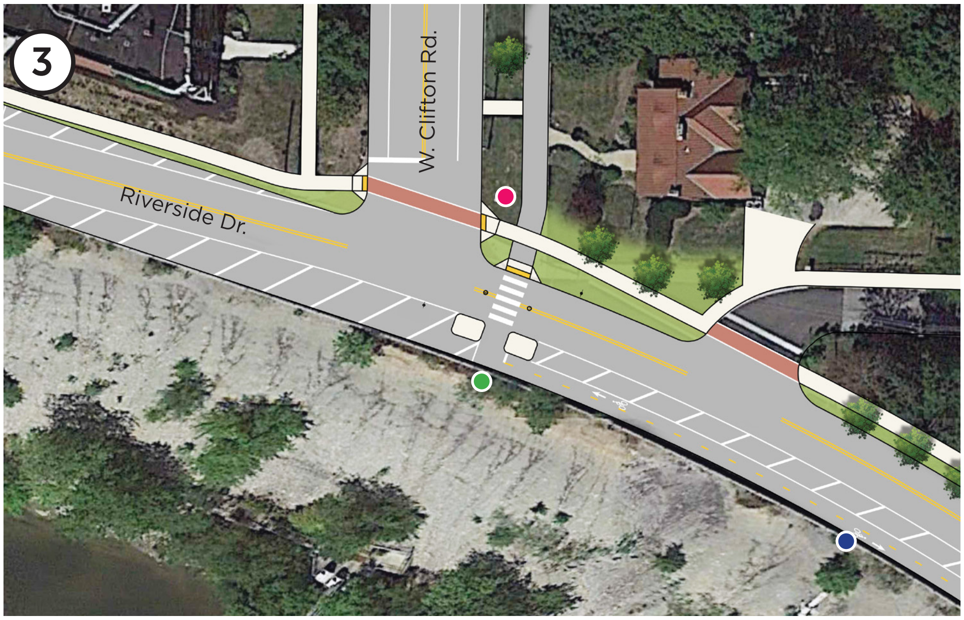
On Trail Signs
- On Trail Directional
- On Trails Orientation Kiosk
- Cyclist Directional



West Clifton Road

On Road Signs
- On Road Directional
- Confidence Marker
- Trailblazer

On Trail Signs
- On Trail Directional
- On Trails Orientation Kiosk
- Cyclist Directional



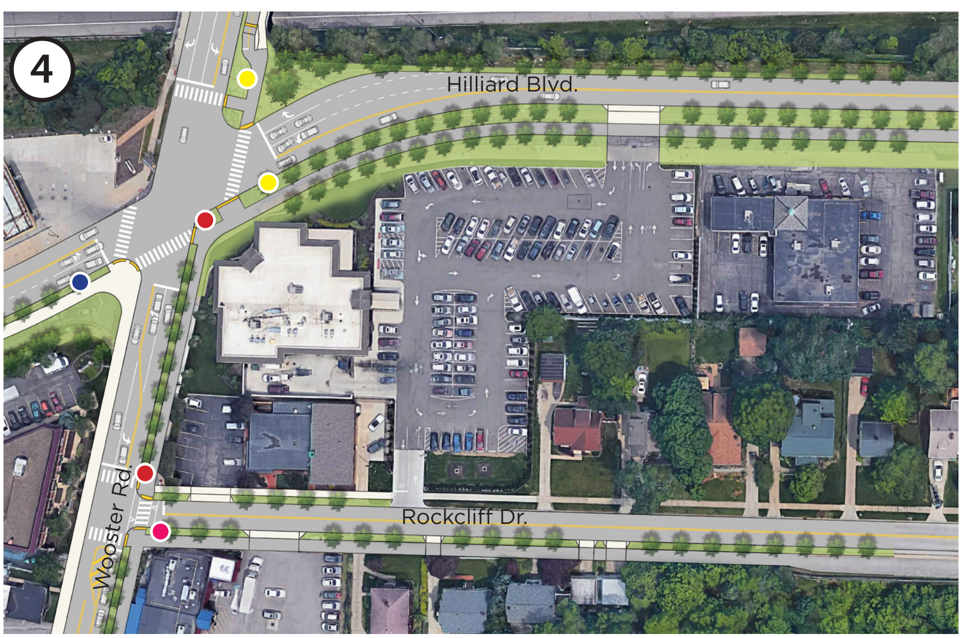
On Road Signs

- On Road Directional
- Confidence Marker
- Trailblazer

On Trail Signs

- On Trail Directional
- On Trails Orientation Kiosk
- Cyclist Directional

Riverside Drive and West Clifton Road



On Road Signs

- On Road Directional
- Confidence Marker
- Trailblazer

On Trail Signs

- On Trail Directional
- On Trails Orientation Kiosk
- Cyclist Directional

Wooster Road/Hilliard Boulevard/Rockcliff Drive

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TRAFFIC ANALYSIS

Since typical traffic patterns and volumes were significantly reduced by Covid-19 stay-at-home orders, the consultant team's traffic engineer analyzed preliminary versions of the plan recommendations based on existing traffic data. This approach was utilized, instead of a more traditional approach of generating and analyzing traffic counts and movements, before proposing corridor modifications, to continue moving the project forward.

The project team identified the locations needing analysis, shown in figure 3-23, during the Project Team Meeting #5 held on October 15th, 2020. The study area includes the following locations in Lakewood and Rocky River:

- Clifton Boulevard Bridge
- Clifton Boulevard at West Clifton Boulevard Intersection
- Wooster Road at Hilliard Boulevard Intersection
- Detroit Road Bridge
- Riverside Drive at Hilliard Boulevard/Hilliard Road Intersection

The analyses completed focus on the impact, as it relates to level of service (LOS), of lane reductions. The potential build configurations vary between each of the locations and will be discussed in further detail below. These locations in particular were identified by the project team in order to better ensure any potential changes do not have an adverse impact to capacity and/or safety throughout the project area.

Existing Traffic Volume Data

Due to the ongoing COVID pandemic, it was not practical to collect new traffic volumes within the project area due to the significant decline of active travel, particularly around Spring/Summer 2020. As such, it was discussed that the most appropriate approach would be to utilize a combination of travel forecasting model data provided by NOACA, existing traffic counts available online through the NOACA GIS/ODOT Traffic Management Monitoring System (TMMS) resources, and existing traffic studies completed adjacent to the project area.

It is important to note that the traffic volumes provided by NOACA directly, or acquired from their website, are in the form of AM and PM "Peak Periods" which subsequently needed factors applied to obtain the peak hour volumes. Theses factors, provided by NOACA, are 2.1 and 2.8 respectively. This applies to both the 2020 and 2040 travel forecasting model data. Traffic data provided by NOACA, or obtained online, can be found in the Appendix. Any existing traffic studies used will include associated references.

Future Traffic Forecast

As part of the study scope, the future traffic forecast was to be developed for a 20-year horizon. NOACA provided these in the form of 2040 volumes that are located in Appendix. For all historical traffic counts obtained from previous studies or online data, growth rates were calculated utilizing the data provided by NOACA and applied appropriately. It is important to note that the growth rates provided are predominantly negative throughout the project area.

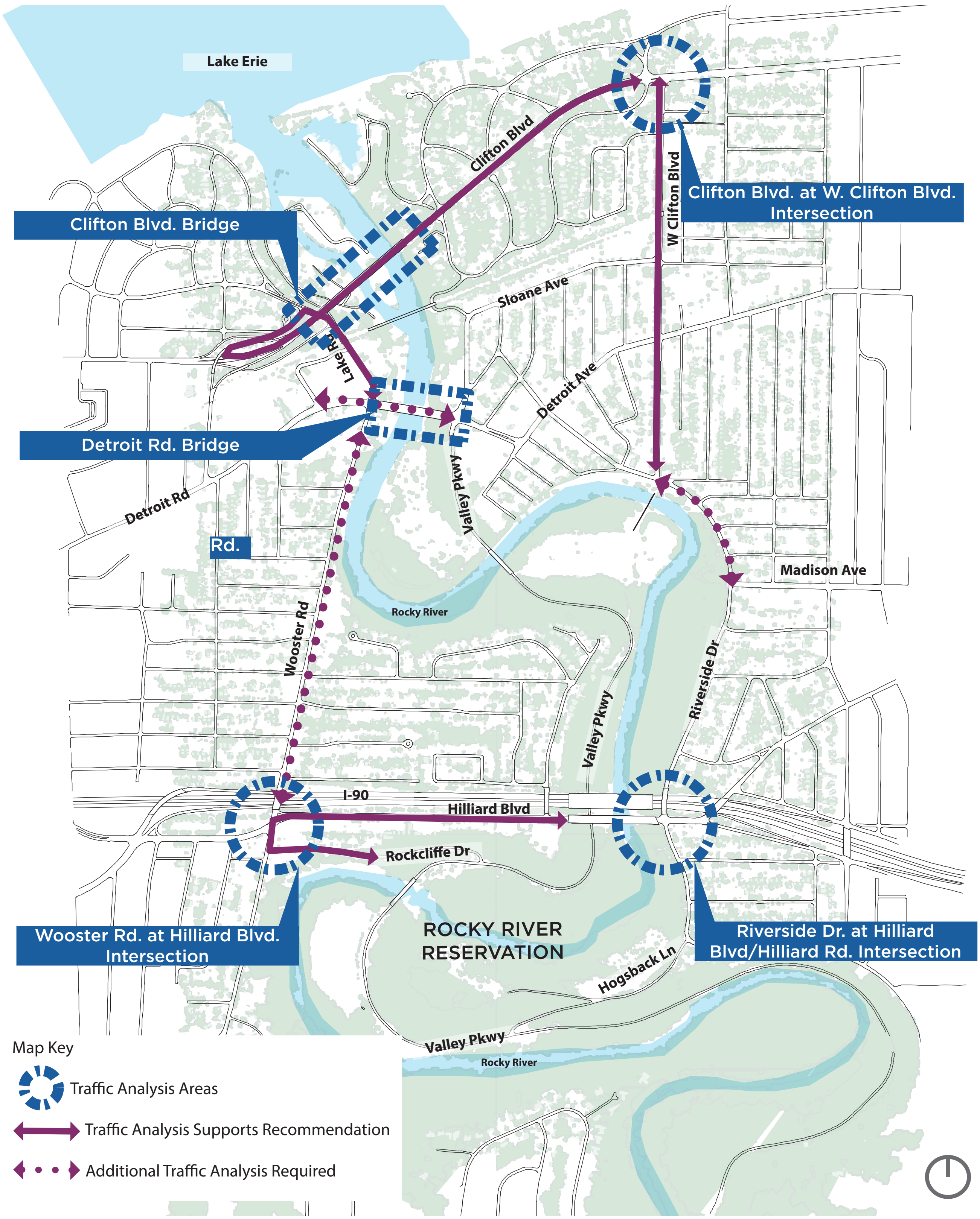
Capacity Analysis and Discussion

The above-mentioned intersections and segments, within the study area, were analyzed according to methodologies published in the Highway Capacity Manual, 6th edition. Synchro Version 10 and HCS7 software programs were utilized to conduct the analyses, and the associated reports for the evaluations are included in the Appendix. The results are also discussed in the following pages.

The LOS of an intersection is based on factors such as number and types of lanes, intersection controls such as "STOP" signs or traffic signals, traffic volumes, pedestrian volumes, etc. LOS is expressed as a letter grade in a range from A through F. In this context, 'A' represents the best conditions, with very little or no average delay to vehicles. LOS 'F' is the worst of conditions, equated with very large average delays and few gaps of acceptable length. (see Table 3-1)

For purposes of this study, the target LOS was 'D' or better, for any analyses not completed previously as part of an existing traffic study. LOS 'D' is considered by many traffic safety professionals to be the minimum acceptable condition in an urban/suburban area. Designers and engineers, however, should use judgment to choose a design level of service that is practical for each location.

FIGURE 3-23: Traffic Analysis Location Map



Clifton Boulevard Bridge

The existing configuration of the bridge provides 2 lanes in each direction. The proposed configuration would provide 1 lane in each direction as can be seen below in Figure 3-24.

In order to analyze traffic, AM and PM Peak hour volumes were pulled from the NOACA GIS website, dated 2017. Growth rates were calculated utilizing the observed rates of the EB/WB ramps to US-6 at Lake Road/Beachcliff Boulevard (provided by NOACA). The results of this indicated a negative growth rate, which was revised to 0% for purposes of determining the 2020 and 2040 AM and PM Peak hour volumes. This calculation equated to 1,014 (EB)/457 (WB) and 698 (EB)/1,209 (WB) vehicles per hour respectively. For purposes of this analysis, the largest volume for each peak period was analyzed.

A segment analysis was completed in HCS7 which resulted in a LOS E for the 2020/2040 AM Peak hour and LOS E for the 2020/2040 PM Peak hour (shown in the Appendix). Though the LOS for the AM and PM Peak are outside of the target range, it is important to note that the existing cross-sections of Clifton Boulevard to the east and west of the bridge provide only 1 lane in each direction. Because of these factors, conversion of the Clifton Boulevard bridge to 1 lane in each direction may not have as significant of an impact on traffic flows as indicated in the analysis

Due to the Clifton Boulevard bridge being the primary thoroughfare between the east and west side of the Rocky River in this location, it is not anticipated that a significant number of motorists would utilize an alternative route should a road diet be implemented. This combined with the existing roadway geometrics on either side of the bridge already being effectively a single lane and the anticipated 'build' condition falling within an acceptable LOS also emphasizes this assumption.

Note that there are differences between traffic volume data available on the NOACA GIS portal compared to the ODOT TMMS site for this location. For example, the ADT is indicated as 13,235 (ODOT TMMS-2019) and 14,818 (NOACA-2017). Due to the differences, new traffic counts and a revised analysis should be performed prior to any implementation.

Level of Service	Description
A	Free flow, with low volumes and high speeds
B	Reasonably free flow, but speeds beginning to be restricted by traffic conditions
C	Stable flow, but most drivers are restricted in the freedom to select their own speeds.
D	Approaching unstable flow; drivers have little freedom to select their own speeds.
E	Approaching unstable flow; drivers have little freedom to select their own speeds.
F	Forced or breakdown flow; unacceptable congestion; stop-and-go.

TABLE 3-1: Level of Service General Definitions (source: Adopted from the AASHTO Green Book and Flexibility in Highway Design

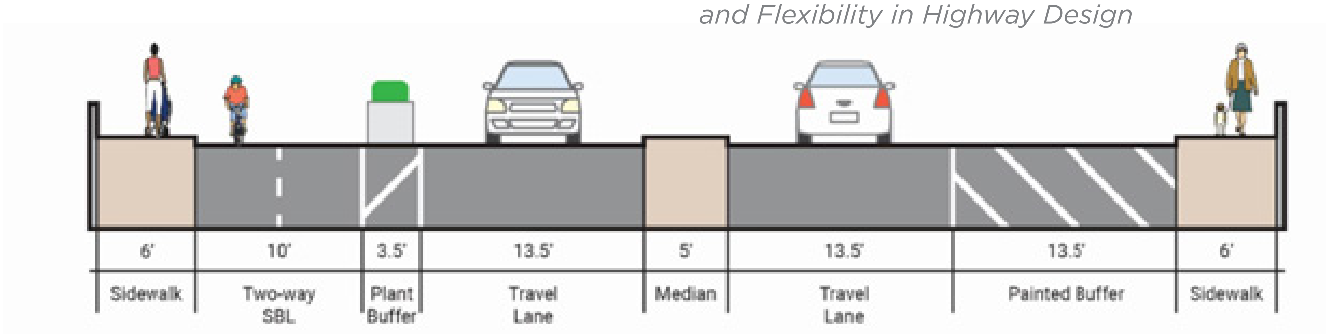


FIGURE 3-24: Clifton Boulevard Bridge Build Configuration

Clifton Boulevard at West Clifton Boulevard Intersection

The existing (no-build) configuration of the intersection includes 3 EB, 4 WB, and 3 NB lanes. For purposes of this analysis, the dedicated WBRT lane was removed in order to isolate this intersection from the adjacent Clifton Boulevard at Lake Avenue/Clifton Road intersection. The proposed (build) configuration of this intersection includes 1 EB, 2 WB, and 2 NB lanes. The build configuration can be seen in Figure 3-25 below.

The existing signal phasing at this location is unknown but was assumed based on the lane and signal head configurations. The existing signal timings are also unknown. For purposes of this analysis however, a cycle length of 80 seconds was utilized in order to offer a baseline comparison between the 'no-build' and 'build' configurations.

The Clifton Boulevard at West Clifton Boulevard intersection was evaluated utilizing the Synchro 10 software during the 2020/2040 AM and 2020/2040 PM peak periods under 3 primary scenarios. These scenarios being 'no-build' (80 second cycle length with optimized splits), 'build' (80 second cycle length with optimized splits), and 'build' (optimized cycle length and splits). The results of the analyses for each are in the Appendix and summarized below in Table 3-2.

With appropriate signal timing/phasing updates, we believe this intersection would be a good candidate for a road diet and even potentially improve the LOS over the No-Build and Build conditions without signal optimization. Removing the 2nd WB LT lane at this intersection would also allow the protected only phasing to be removed, which in turn would help to mitigate unnecessary delay.

In regard to the potential for alternative routes being taken after implementation of the road diet, it isn't anticipated that this will be significant. The thought process behind this is EB and WB vehicles traveling along Clifton Boulevard would do so regardless, especially if the amount of delay is actually able to be decreased with the revised signal timing/phasing. NB and SB vehicles along West Clifton Boulevard do have the option for alternative routes on the local streets east of the intersection. However, in order to utilize these, vehicles would have to travel further along Detroit Avenue which includes slower speed limits and additional signalized intersections.

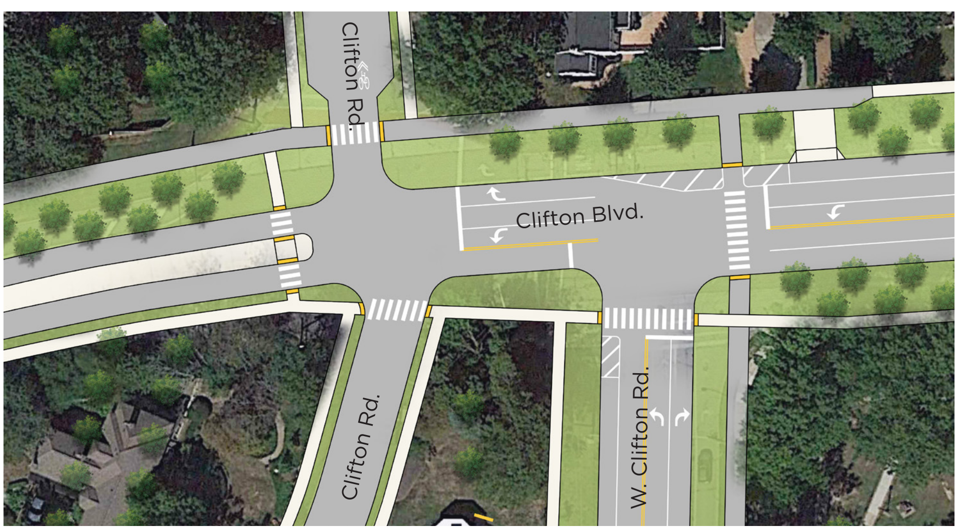


FIGURE 3-25: Clifton Boulevard at West Clifton Boulevard Build Configuration

Location	Approach/ Movement	AM Peak Period					PM Peak Period				
		Cycle Length (s)	LOS	Delay (s)	LOS	Delay (s)	Cycle Length (s)	LOS	Delay (s)	LOS	Delay (s)
Clifton Blvd/W Clifton Blvd (2020 No-Build)	EB	80	A	5.5	A	6.5	80	A	6.2	B	10.4
	WB		A	7.5				B	11.1		
	NB		B	10.3				B	19.3		
Clifton Blvd/W Clifton Blvd (2040 No-Build)	EB	80	A	5.4	A	6.3	80	A	6.1	A	9.6
	WB		A	7.1				B	10.1		
	NB		B	10.5				B	18.3		
Clifton Blvd/W Clifton Blvd (2020 Build)	EB	80	A	6.0	A	5.8	80	A	6.0	A	7.5
	WB		A	2.1				A	6.9		
	NB		B	11.6				B	20.0		
Clifton Blvd/W Clifton Blvd (2040 Build)	EB	80	A	5.8	A	5.7	80	A	5.8	A	6.2
	WB		A	2.0				A	5.0		
	NB		B	11.8				B	19.1		
Clifton Blvd/W Clifton Blvd (2020 Build - Optimized)	EB	60	A	8.1	A	7.0	70	A	6.7	A	8.1
	WB		A	2.6				A	7.8		
	NB		A	9.2				B	16.9		
Clifton Blvd/W Clifton Blvd (2040 Build - Optimized)	EB	60	A	7.7	A	6.7	60	A	7.6	A	7.2
	WB		A	2.6				A	6.5		
	NB		A	8.3				B	13.1		

TABLE 3-2: Level of Service Results Summary

Wooster Road at Hilliard Boulevard Intersection

The existing (no-build) configuration of the intersection includes 3 EB, 4 WB, 2 NB, and 3 SB lanes. The proposed (build) configuration of this intersection includes removal of 2 WB lanes, resulting in a configuration of 2 EB, 2 WB, 2 NB, and 3 SB lanes. This can be seen below in Figure 3-26.

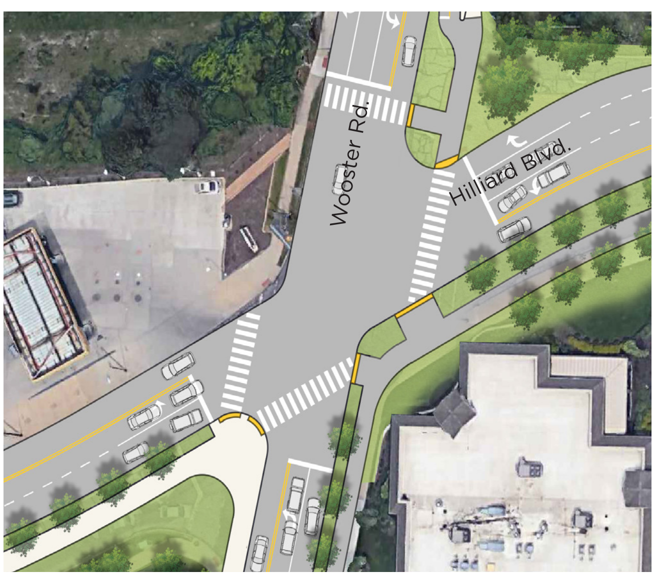


FIGURE 3-26: Wooster Rd at Hilliard Blvd Build Configuration

An analysis of the road diet along Hilliard Boulevard was completed as part the Hilliard Road Bridge Traffic Analysis Technical Memorandum by TranSystems, dated August 26, 2020. This analysis includes the conclusion that the Hilliard Boulevard bridge could be reduced to one lane in either direction without severe impacts to the operation of the Wooster Road at Hilliard Boulevard Intersection.

In addition to the above-mentioned Traffic Analysis, a separate analysis was also conducted based on the proposed lane configurations shown in Figure 3-26. This was completed using the Synchro 10 software during the 2020/2040 AM and 2020/2040 PM peak periods under 3 primary scenarios. These scenarios being 'no-build' (80 second cycle length with optimized splits), 'build' (80 second cycle length with optimized splits), and 'build' (optimized cycle length and splits). The results of the analysis show a 'no-build' LOS of B and C in 2020/2040 AM and 2020/2040 PM peak periods and a LOS of C and D in the 'build' and 'build-optimized' scenarios for the 2020/2040 AM and 2020/2040 PM peak periods. The results of the analyses for each are in the Appendix and summarized in Table 3-3.

Location	Approach/ Movement	AM Peak Period					PM Peak Period				
		Cycle Length (s)	LOS	Delay (s)	LOS	Delay (s)	Cycle Length (s)	LOS	Delay (s)	LOS	Delay (s)
Hilliard Blvd/Wooster Rd (2020 No-Build)	EB	80	C	31.2	B	19.6	80	C	33.3	C	26.7
	WB		B	16.8				C	27.7		
	NB		B	15.0				C	26.3		
	SB		B	11.2				C	20.9		
Hilliard Blvd/Wooster Rd (2040 No-Build)	EB	80	C	31.7	B	19.0	80	C	32.3	C	24.0
	WB		B	16.2				C	24.7		
	NB		B	13.5				C	21.6		
	SB		B	11.4				C	20.1		
Hilliard Blvd/Wooster Rd (2020 Build)	EB	80	D	35.8	C	24.2	80	E	66.3	D	45.2
	WB		B	16.3				D	38.9		
	NB		C	22.9				D	52.2		
	SB		B	13.5				C	27.9		
Hilliard Blvd/Wooster Rd (2040 Build)	EB	80	D	35.5	C	23.1	80	D	49.9	C	33.0
	WB		B	14.1				C	30.0		
	NB		C	20.2				C	34.3		
	SB		B	14.3				C	22.3		
Hilliard Blvd/Wooster Rd (2020 Build - Optimized)	EB	75	D	36.8	C	24.2	90	E	57.7	D	43.7
	WB		B	16.0				D	39.3		
	NB		C	22.0				D	48.1		
	SB		B	13.2				C	32.7		
Hilliard Blvd/Wooster Rd (2040 Build - Optimized)	EB	70	D	37.6	C	22.7	90	D	49.6	C	33.7
	WB		B	13.1				C	34.0		
	NB		B	18.4				C	30.7		
	SB		B	13.1				C	25.2		

TABLE 3-3: Level of Service Results Summary

The primary concern as it relates to the build configuration would be in relation to the removal of the EB RT lane. Due to a particularly large amount of traffic making this movement, removing this additional lane may have a significantly adverse affect to the LOS for the EB movement. This is especially noticeable during the PM Peak Hour. Should the full extent of this road diet be implemented, we would recommend a more extensive study be conducted to ensure adequate signal timing/phasing is utilized in order to better ensure an acceptable LOS for all approaches.

Should this road diet be implemented, as shown in Figure 3-26, we would anticipate that a number of EB RT vehicles may attempt to find alternate routes to travel SB on Wooster Road. There are a number of residential streets that run parallel with Wooster Road including Lakeview Avenue, Hampton Road, and Gasser Boulevard to name a few. This potential diversion would be our biggest concern. With proper signal timing/phasing it is not anticipated that any other movements would see a significant increase in a search for alternate routes.

With the above information in mind, the EB RT lane will remain, in the proposed intersection reconfiguration.

Detroit Road Bridge

The existing configuration of the bridge provides a cross section with 5 total lanes. The proposed configuration would provide 1 lane in each direction with a dedicated left turn lane as shown in Figure 3-27 below.

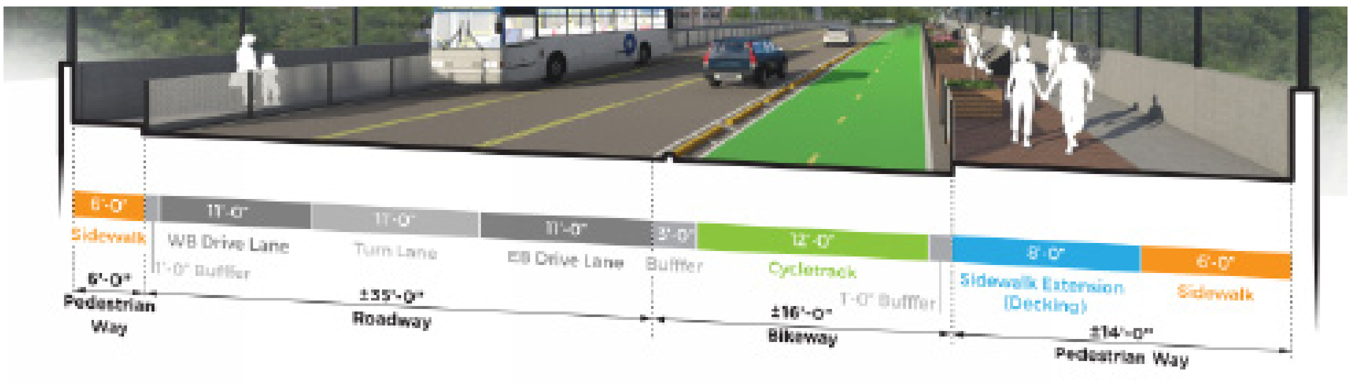


FIGURE 3-27: Detroit Road Bridge Build Configuration

In order to analyze traffic, AM and PM Peak hour volumes were pulled from the NOACA GIS website, dated 2017. Growth rates were calculated utilizing the observed rates of the Detroit Road at Sloane Avenue intersection (provided by NOACA). The results of this indicated a negative growth rate, which was revised to 0% for purposes of determining the 2020 and 2040 AM and PM Peak hour volumes. This calculation equated to 418 (EB)/396 (WB) and 853 (EB)/846 (WB) vehicles per hour respectively. For purposes of this analysis, the largest volume for each peak period was analyzed.

A segment analysis was completed in HCS7 which resulted in a LOS D for the 2020/2040 AM Peak hour and LOS E for the 2020/2040 PM Peak hour (shown in the Appendix). Though the LOS for the PM Peak is outside of the target range, it is important to note that the existing cross-sections of Detroit Road to the east and west of the bridge provide only 1 lane in each direction. Because of these factors, conversion of the Detroit Road bridge to 1 lane in each direction may not have as significant of an impact on traffic flows as indicated in the analysis.

In addition to the analysis completed above, a Traffic Engineering Study for Detroit Road and Sloane Avenue/ Valley Parkway by TMS Engineers, Inc., dated January 29, 2018. This analysis includes a recommendation for removal of an EB lane at the Detroit Road at Sloane Avenue intersection.

Due to the reasons above, no additional analysis was completed at this time for this location.

In regard to alternative routes being chosen should the road diet be implemented, it is possible, but not probable. The theory behind this is related to the fact that the only two bridges to cross the Rocky River near this location are Detroit Road and Clifton Boulevard/ Road. Due to the configurations of the access points between the two, it would almost surely add additional delay to accomplish this.

Riverside Drive at Hilliard Boulevard/ Hilliard Road Intersection

The existing (no-build) configuration of the intersection includes 3 EB, 3 WB, 2 NB and 2 SB lanes. The proposed (build) configuration of this intersection would include the removal of the dedicated SB LT lane leaving 3 EB, 3 WB, 2 NB, and 1 SB lanes. The existing signal phasing at this location is unknown but was assumed based on the lane and signal head configurations. The existing signal timings are also unknown. For purposes of this analysis however, a cycle length of 80 seconds was utilized in order to offer a baseline comparison between the 'no-build' and 'build' configurations.

The Riverside Drive at Hilliard Boulevard/Hilliard Road intersection was evaluated utilizing the Synchro 10 software during the 2020/2040 AM and 2020/2040 PM peak periods under 3 primary scenarios. These scenarios being 'no-build' (80 second cycle length with optimized splits), 'build' (80 second cycle length with optimized splits), and 'build' (optimized cycle length and splits). The results of the analyses for each are in the Appendix and summarized below in Table 3-4.

Prior to implementation of a road diet at this location, we would recommend a more extensive study be conducted, particularly as it relates to signal timing/ phasing. As can be seen in the results above, we are within the acceptable LOS, however it does provide a pretty significant increase to the amount of delay, particularly as it relates to SB vehicles.

Should the road diet be implemented, we would anticipate a number SB LT vehicles to utilize a different route. This alternative route would most likely be McKinley Avenue. Access to McKinley Avenue could potentially push traffic onto residential streets, or Madison Avenue.

In order to avoid this potential vehicular traffic rerouting, the SB LT lane will remain, and the proposed bike route on Riverside Drive will be rerouted east on Riverway Drive (north of Hilliard Boulevard,) south on Concord Drive, to a planned bike lane on Hilliard Road, going east back to Riverside Drive.

Location	Approach/ Movement	AM Peak Period					PM Peak Period				
		Cycle Length (s)	LOS	Delay (s)	LOS	Delay (s)	Cycle Length (s)	LOS	Delay (s)	LOS	Delay (s)
Riverside Dr/Hilliard Blvd/Hilliard Rd (2020 No-Build)	EB	80	C	20.7	C	23.9	80	B	14.9	C	22.3
	WB		B	17.1				C	20.3		
	NB		C	27.9				C	31.0		
	SB		C	31.0				C	32.3		
Riverside Dr/Hilliard Blvd/Hilliard Rd (2040 No-Build)	EB	80	B	19.4	C	23.6	80	B	15.3	C	22.6
	WB		B	16.7				C	20.5		
	NB		C	30.3				C	31.8		
	SB		C	31.2				C	31.5		
Riverside Dr/Hilliard Blvd/Hilliard Rd (2020 Build)	EB	80	D	38.6	D	39.5	80	C	20.9	C	30.9
	WB		C	25.0				C	30.8		
	NB		B	10.3				B	14.4		
	SB		E	55.3				D	52.9		
Riverside Dr/Hilliard Blvd/Hilliard Rd (2040 Build)	EB	80	C	33.7	D	35.6	80	C	21.5	C	32.4
	WB		C	24.7				C	32.3		
	NB		B	10.4				B	13.7		
	SB		D	50.6				D	53.9		
Riverside Dr/Hilliard Blvd/Hilliard Rd (2020 Build - Optimized)	EB	90	D	35.8	D	37.2	80	C	20.9	C	30.9
	WB		C	26.3				C	30.8		
	NB		B	11.2				B	14.4		
	SB		D	51.1				D	52.9		
Riverside Dr/Hilliard Blvd/Hilliard Rd (2040 Build - Optimized)	EB	80	C	33.7	D	35.5	80	C	21.5	C	32.4
	WB		C	24.7				C	32.3		
	NB		B	10.4				B	13.7		
	SB		D	50.6				D	53.9		

TABLE 3-4: Level of Service Results Summary

04

Implementation

04

IMPLEMENTATION

OVERVIEW

The cities of Lakewood and Rocky River are well-positioned to build on the area's strengths and become great walking and biking cities. The Rocky River Reservation, sits between the cities, provides outdoor recreation opportunities as well as mobility connections to the greater region. The collaborative leadership between these two cities can take the area to the next chapter where walking and biking play a vital role in future vibrancy, affordability, and health.

For the majority of the projects, there is clear responsibility for the project partners although in some instances, coordination will be necessary in order to ensure a safe and efficient overall system.

This section prioritizes the plan recommendations, provides a preliminary cost estimate based on the conceptual design, and lists some potential funding sources.

PRIORITIES

The recommendations were prioritized into two tiers based on their cost, impact to the existing network, and alignment with on-going efforts by the project partners. Tier one defines short-term investments that create immediate impacts to the existing network, or low cost projects that align with projects that are currently being or will be implemented soon.

Tier two project define medium to long-term investments which will expand and/or enhance the network. Their typically larger size, cost, and complexity will require additional analysis and coordination between municipalities and organizations.

TIER ONE

A. Clifton Boulevard (Short Term) & Lake Road

B. West Clifton Road

E. Hogsback Lane

H. Detroit Road Bridge

I. Valley Parkway Improvements

TIER TWO

A. Clifton Boulevard (Long Term)

C. Riverside Drive

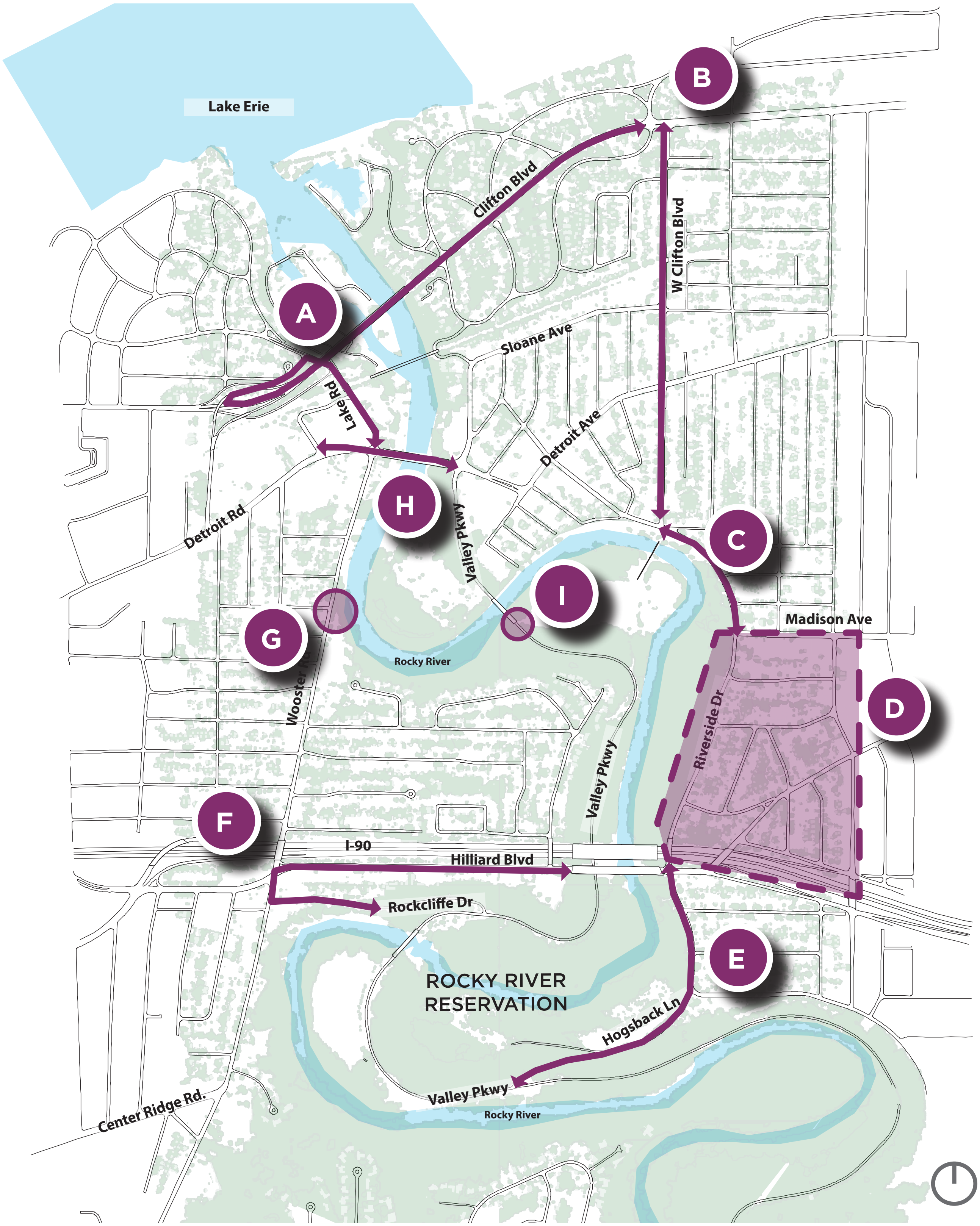
D. Madison Avenue to Hilliard Bridge Connection

F. Wooster Road/Hilliard Boulevard/Rockcliff Drive

G. Wooster Road Overlook

(Note: the letters associate with the plan recommendations from chapter 3.)

FIGURE 4-1: Plan Recommendations Map



COST ESTIMATES

The project team developed initial cost estimates for the plan recommendations based on the conceptual design. In some cases, these estimates incorporated assumptions of materials and other related items. The estimates were also broken down into short term improvements and long term improvements, and in cases where a larger area was examined, the estimates were subdivided into smaller parts.

The costs shown on the following page are the total project costs based on the elements shown in chapter 3. Each conceptual cost estimate includes a 25% contingency cost, 15% general conditions and mobilization cost, 4% maintenance of traffic cost, 12% design fees, and 10% construction engineering and inspection costs.

Page 303 of the appendix contains detailed cost estimates for each of the projects.

TIER ONE COST SUMMARY

A. Clifton Boulevard & Lake Road *(see page 50)*

— Short term improvements = $325K

B. West Clifton *(see page 54)*

— West Clifton Road/Clifton Boulevard improvements = $165K

— West Clifton Road corridor = $955K

E. Hogsback Lane *(see page 60)*

— Riverside Drive short term improvements = $212K

— Riverside Drive long term improvements = $617K

— Hogsback/Riverside Traffic Circle = $1.8 million

— Hogsback Lane improvements = $4.4 million

H. Detroit Road Bridge *(see page 66)*

— Total improvements cost = $806K

I. Valley Parkway Improvements

— Total improvements cost = $10-$15K for a solar powered unit.

TIER TWO COST SUMMARY

A. Clifton Boulevard & Lake Road *(see page 50)*

— Long term improvements = $865K (in addition to the above cost)

G. Wooster Road Overlook *(see page 64)*

— Total improvements cost = $642K

C. Riverside Drive *(see page 56)*

— Short term improvements = $148K

— Long term improvements = $809K

F. Wooster Road/ Hilliard Boulevard/ Rockcliff Drive *(see page 62)*

— Hilliard Boulevard improvements = $1.6 million

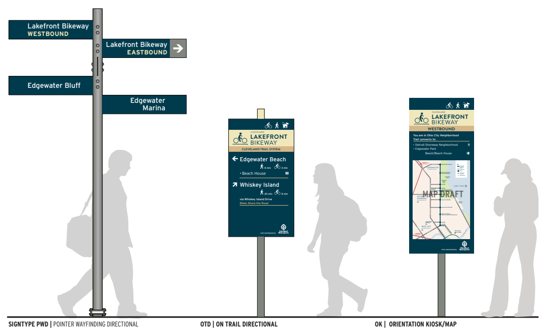
— Intersection improvements (including Rockcliff Drive) = $709K

(go to page 303 for the full project cost breakdowns)

WAYFINDING

Implementation of wayfinding signage should continue to follow the identified sign types below. Figure 4-2 highlights the recommended corridor signage.

Cleveland Trails Sign System



For roads/trails where existing or proposed networks connect across cities and neighborhoods, we recommend utilizing the newly developed Cleveland Trails Sign System. This program can be adapted to highlight a new trail (with color coding or brand) and should be adapted for more connective on-road experiences.

Cleveland Metroparks Sign System

For roads/trails deep within the park system, we recommend continuing the use of Metroparks Signage but at point of entry/exit, the Cleveland Trails Sign System can be used to guide to city/neighborhood amenities.

Rocky River Sign System

Lakewood Sign System

For commercial corridors with heavy multimodal access and a need to be recognized as a specific city district, we recommend sign programs be established that represent the city and needs of the area. Sign types meant to speak to vehicles, cyclists and pedestrians are recommended.

MUTCD Regulatory

In all on road/share road instances, specialty sign programs such as the Cleveland Trail Sign System will be accompanied by regulatory signage that is universally used to control and regulate traffic between multiple modes of travel. This includes pavement markings.

FIGURE 4-2: Wayfinding Recommendations by Areas of Use & Priority Zones

FUNDING SOURCES

The following funding sources apply to many of the varied recommendations in the Plan. The descriptions will provide a starting point for determining financial support for implementation. Information is courtesy of NOACA, https://www.noaca.org/tools-resources/resources/funding-resources.

50/50 Program: The 50/50 Program funds county road and bridge improvements in Cuyahoga County. It allows for the inclusion of bike or pedestrian improvements if it is in tandem with a roadway resurfacing.	**Funding Source:** Cuyahoga County Department of Public Works **Match:** 50% **Eligible Applicants:** Counties, Municipalities/Townships **Project Category:** Road, Bridge, Safety Bikeways, Pedestrian **Website:** http://publicworks.cuyahogacounty.us/
Advanced Transportation and Congestion Management Technologies Deployment Initiative: This program provides competitive grants for the development of model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment. Some of the eligible activities include: advanced traveler information systems, advanced transportation management systems, advanced public transportation systems, advanced safety systems including vehicle-to-vehicle and other collision advoidance technologies, transportation system performance data collection, analysis and dissemination systems, and advanced mobility and access technologies, such as dynamic ridesharing and informaiton systems to support human services for elderly and disabled individuals.	**Funding Source:** Federal Highway Administration **Match:** 50% **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, Research/Academic Institutions **Project Category:** Road, Bridge, Safety Traffic Signal Upgrade, Transit Capital, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment, Mobility Management, Transit Center Facility, Bikeways Pedestrian **Website:** https://www.fhwa.dot.gov/fastact/factsheets/advtranscongmgmtfs.cfm
CEAO - Federal Programs: CEAO homepage for all Federal programs. Provides descriptions and information on the County Surface Transportation program (CSTP), Local Bridge Program (LBR), & the Highway Safety Improvement Program (HSIP).	**Funding Source:** County Engineers Association of Ohio (CEAO) **Match:** varies **Eligible Applicants:** Counties, Municipalities/Townships **Project Category:** Road, Bridge, Safety Bikeways, Pedestrian **Website:** http://www.ceao.org/aws/CEAO/pt/sp/cstpprograms
Clean Ohio Fund - Green Space Conservation Program: This Ohio program helps to fund preservation of open spaces, sensitive ecological areas, and stream corridors. Grant recipients agree to maintain the properties in perpetuity so that they can be enjoyed and cherished for generations to come.	**Funding Source:** Ohio Public Works Commission (OPWC) **Match:** varies **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, Non-Profits **Project Category:** Road, Bridge, Bikeways, Pedestrian, Planning, Storm Water Improvement Natural Habitat, Preservation & Restoration, Resilience Efforts **Website:** https://development.ohio.gov/cleanohio/greenspaceconservation/

	FUNDING RESOURCES CONTINUED
Clean Ohio Trails Fund: This Ohio program works to improve outdoor recreational opportunities by funding trails for outdoor pursuits including land acquisition of all kinds. Special emphasis is given to projects that: Are consistent with the statewide trail plan; Complete regional trail systems and links to the state wide trail plan; Links population centers with outdoor recreation areas and facilities; Involve the purchase of rail lines linked to the statewide trail plan; preserves antural corridors; and Pvoide links in urvban areas to support commuter access and provide economic benefit.	**Funding Source:** Ohio Department of Natural Resources (ODNR) **Match:** 25% **Eligible Applicants:** Counties, Municipalities/ Townships, Metroparks, Port Authorities, Non-ProfitsProject **Project Category:** Bikeways, Pedestrian **Website:** https://development.ohio.gov/cleanohio/ RecreationalTrails/
Community Development Block Grant: Federal funding through Housing and Urban Development (HUD) for public facilities: road resurfacing, crosswalks, street lights, traffic/pedestrian signals, barrier removal for handicap accessibility (e.g., sidewalks, curb ramps), and street furniture. The annual CDBG appropriation is allocated between states and local jurisdictions called “non-entitlement” and “entitlement” communities respectively. Entitlement communities are comprised of central cities of Metropolitan Statistical Areas (MSAs); metropolitan cities with populations of at least 50,000; and qualified urban counties with a population of 200,000 or more (excluding the populations of entitlement cities). States distribute CDBG funds to non-entitlement localities not qualified as entitlement communities. Check HUD’s, County’s, or City’s website to see if funding is eligible in your location.	**Funding Source:** US Department of Housing and Urban Development (HUD) **Match:** varies **Eligible Applicants:** Counties, Municipalities/Townships **Project Category:** Road, Bridge, Safety Bikeways, Pedestrian **Website:** https://www.hud.gov/program_offices/spm/ gmomgmt/grantsinfo
Community Grants, Loans, Bonds and Tax Credits: The Community Services Division of the ODSA works to build safe neighborhoods, vibrant downtowns, and reliable infrastructure to support job creation. It prov ides support of these goals through a variety of outright awards, loans, bonds, and/or tax credits that include, but not limited to, Community Development Block Grants and Infrastructure Grant Funds to local government applicants for both economic development loan and public infrastructure projects.	**Funding Source:** Ohio Development Services Agency (ODSA) **Match:** varies **Eligible Applicants:** Counties, Municipalities/Townships **Project Category:** Road, Bridge, Bikeways, Road, Pedestrian, Storm Water Improvement, Sewer Construction, Wastewater Treatment Plant Improvements, Community Water System Improvements, Natural Habitat Preservation & Restoration **Website:** https://development.ohio.gov/cs/cs_ grantsloansbonds.htm
Congestion Mitigation and Air Quality Improvement Program: Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds can only be used for projects that help reduce traffic congestion and improve air quality. In the NOACA region, these funds may be used for traffic signal upgrade projects, bus replacements, bike facilities, intelligent transportation system improvements, transit center and Park-N-Ride construction – and for conducting NOACA’s Air Quality Program.	**Funding Source:** Northeast Ohio Areawide Coordinating Agency (NOACA) **Match:** 0-20% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, Research or Academic Institutions, School Districts, Non-Profits **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Vehicles, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment, Transit Center Facility, Bikeways, Pedestrian, Planning, Freight **Website:** https://www.noaca.org/community-assistance-center/funding-programs/ congestion-mitigation-air-quality-program

Coordinating Council on Access and Mobility Initiatives (CAAM): CAAM provides funding to improve the availability, accessibility, and efficiency of transportations with programs including United We Ride, Mobility Services for All Americans, Veterans Transportation Community Living Initiative, and the Transit & Health Access Initiative.	**Funding Source:** Federal Transit Administration **Match:** varies **Eligible Applicants:** Counties, Municipalities/Townships Transit, Agencies Port Authorities **Project Category:** Safety, Transit Capital, Vehicles, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment, Mobility Management **Website:** https://www.transit.dot.gov/ccam/about/initiatives
County Highway Safety Program: The County Safety Program provides funds to counties, through the County Engineers, for safety related improvements, on county maintained roadways. The County Engineers Association of Ohio (CEAO) serves as program manager for project selection and administration.	**Funding Source:** County Engineers Association of Ohio (CEAO) **Match:** 0-20% **Eligible Applicants:** Counties **Project Category:** Road, Safety, Traffic Signal Update, Planning **Website:** http://www.ceao.org/aws/CEAO/pt/sp/home_page
County Local Bridge Program: The County Local Bridge Program provides funds to counties, through the County Engineers Association of Ohio (CEAO), for bridge rehabilitation or replacement projects on county maintained roadways. The CEAO serves as program manager for project selection and administration.	**Funding Source:** County Engineers Association of Ohio (CEAO) **Match:** 5-20% **Eligible Applicants:** Counties **Project Category:** Bridge, Safety **Website:** http://www.ceao.org/aws/CEAO/pt/sp/home_page
Enhanced Mobility for Seniors and Individuals With Disabilities (Section 5310) Program-Cleveland Urbanized Area: The Enhanced Mobility for Seniors and Individuals with Disabilities (Section 5310) program provides capital and operating grants to assist private non-profit corporations and public agencies who offer coordinated transportation services that are planned, designed, and carried out to meet the needs of seniors and individuals with disabilities in the Cleveland Urbanized area.	**Funding Source:** Northeast Ohio Areawide Coordinating Agency (NOACA) **Match:** 20% **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Non-Profits **Project Category:** Transit Capital,Vehicles, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment Mobility, Management, Transit Operating, Pedestrian **Website:** https://www.noaca.org/community-assistance-center/funding-programs/enhanced-mobility-section-5310-program

	FUNDING RESOURCES CONTINUED
Enhanced Mobility for Seniors and Individuals With Disabilities (Section 5310) Program-Small Urbanized and Rural Areas: The Enhanced Mobility for Seniors and Individuals with Disabilities (Section 5310) program provides capital and operating grants to assist private non-profit corporations and public agencies who offer coordinated transportation services that are planned, designed, and carried out to meet the needs of seniors and individuals with disabilities in Small Urbanized and Rural areas.	**Funding Source:** Ohio Department of Transportation **Match:** 20% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Non-Profits **Project Category:** Transit Capital, Vehicles, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment, Mobility Management, Transit Operating, Pedestrian **Website:** http://www.dot.state.oh.us/Divisions/Planning/Transit/Pages/Specialized.aspx
FTA - Current Grant Programs: FTA grants homepage provides information on all current FTA competitive and formula grant award programs. These funding sources each have specific requirements, funding cycles and awards processes that can be reviewed at each programs home page.	**Funding Source:** Federal Transit Administration (FTA) **Match:** varies **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Port Authorities, Sewer Districts, Research or Academic Institutions, School Districts, Non-Profits **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Vehicles, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment, Mobility Management, Transit Center Facility, Transit Operation, Bikeways, Pedestrian, Pedestrian Safety Program, Planning, Freight, Resilience Efforts **Website:** https://www.transit.dot.gov/grants
Grants.gov: Grants.gov homepage provides a centralized location for all current Federal Agency funding opportunities. Provides resources and guidance on how to search and apply for any applicable Federal awards.	**Funding Source:** Federal Government **Match:** varies **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, Research or Academic Institutions, School Districts, Non-Profits **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Vehicles, Intelligent Transportation Systems, Computer Hardware/ Software, Communications Equipment, Mobility Management, Transit Center Facility, Transit Operating, Bikeways, Pedestrian, Bike Safety Program, Helmets, Pedestrian Safety Program, Planning, Freight, Nutrient Reduction, Dredged Material, Storm Water Improvement, Sewer Construction, Wastewater Treatment Plant Improvements, Community Water System Improvements, Community Water System Improvements, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://www.grants.gov/

FUNDING RESOURCES CONTINUED	
Highway Funding FHWA homepage provides information on highway and bridge funding programs.	**Funding Source:** Federal Highway Administration (FHWA) **Match:** varies **Eligible Applicants:** Counties, Municipalities/Townships Transit, Agencies Port Authorities **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Vehicles, Mobility Management, Transit Center Facility, Bikeways, Pedestrian, Bike Safety Program, Pedestrian Safety Program, Planning, Freight, Storm Water Improvement, Resilience Efforts **Website:** https://www.fhwa.dot.gov/resources/topics/funding.cfm
Highway Safety Improvement Program: Funds from this program can be used to make improvements on any public roadway, including but not limited to intersection and curve realignment, rumble stripe and cable barrier installation, driver education and enforcement, and upgrades to signals, pavement markings, or guardrails.	**Funding Source:** Ohio Department of Transportation (ODOT) **Match:** 0-10% **Eligible Applicants:** Counties, Municipalities/Townships **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Bikeways, Pedestrian **Website:** http://www.dot.state.oh.us/Divisions/Planning/ProgramManagement/HighwaySafety/HSIP/Pages/default.aspx
Infrastructure for Rebuilding America (INFRA) Grant Program: The INFRA Grants program provides dedicated, discretionary funding for projects that address critical issues facing our nation's highways and bridges. INFRA grants will support the Administration's commitment to fixing our nation's crumbling infrastructure by creating opportunities for all levels of government and the private sector to fund infrastructure, using innovative approaches to improve the necessary processes for building significant projects, and increasing accountability for the projects that are built.	**Funding Source:** United States Department of Transportation (USDOT) **Match:** 40% **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Metroparks, Port Authorities **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Intelligent Transportation Systems, Transit Center Facility, Bikeways, Pedestrian, Freight, Storm Water Improvement, Resilience Efforts **Website:** https://www.transportation.gov/buildamerica/financing/infra-grants/infrastructure-rebuilding-america

	FUNDING RESOURCES CONTINUED
Lake Erie Protection Fund: This program provides grants to fund on-the-ground projects aimed at protecting, preserving and restoring Lake Erie or its tributary watersheds. Projects must assist in implementing the 2016 Lake Erie Protection and Restoration Plan.	**Funding Source:** Ohio Environmental Protection Agency (OEPA) **Match:** 25% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, School Districts, Non-Profits **Project Category:** Nutrient Reduction, Dredged Material, Storm Water, Improvement, Sewer Construction, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://lakeerie.ohio.gov/ LakeErieProtectionFund.aspx
Local Major Bridge Program: The Local Major Bridge Program provides Federal funds to counties and municipalities for bridge replacement or major bridge rehabilitation projects. A Local Major Bridge is defined as a moveable bridge or a bridge having a deck area greater than 35,000 square feet. ODOT will provide up to 80% of eligible costs for construction and construction engineering only. There is a maximum of $20,000,000 per project. Currently there are 57 bridges identified statewide as Local Major Bridges. To be eligible for funds, projects must have a General Appraisal of 4 or less or legally posted for load restriction. The project must also be open to vehicular traffic and structurally deficient..	**Funding Source:** Ohio Department of Transportation (ODOT) **Match:** 20% **Eligible Applicants:** Counties, Municipalities/Townships **Project Category:** Bridge, Safety **Website:** http://www.dot.state.oh.us/ Divisions/Planning/LocalPrograms/Pages/ LocalFundingOpportunities.aspx
Local Transportation Improvement Program: State funding available for roadway and bridge projects. Counties, cities, villages and townships may apply for these funds.	**Funding Source:** Ohio Public Works Commission (OPWC) **Match:** 0% **Eligible Applicants:** Counties, Municipalities/ Townships, Port Authorities, Sewer Districts **Project Category:** Road, Bridge, Storm Water Improvement, Sewer Construction **Website:** https://pwc.ohio.gov/Programs/All-OPWC-Funding-Programs#56413-local-transportation-improvement
Municipal Bridge Program: Provides federal funds to municipal corporations and Regional Transit Authorities for bridge replacement or bridge rehabilitation projects.	**Funding Source:** Ohio Department of Transportation (ODOT) **Match:** 20% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies **Project Category:** Bridge, Safety **Website:** http://www.dot.state.oh.us/ Divisions/Planning/LocalPrograms/Pages/ LocalFundingOpportunities.aspx

	FUNDING RESOURCES CONTINUED
National Fish and Wildlife Foundation: This program benefits wildlife and water quality in the Great Lakes basin. Projects must work to improve stream habitats, coastal wetland habitats, aquatic connectivity, green stormwater infrastructure, or water quality in the Great Lakes and its tributaries.	**Funding Source:** Sustain Our Great Lakes **Match:** 25% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, School Districts, Non-Profits **Project Category:** Bridge, Nutrient Reduction, Storm Water Improvement, Sewer Construction, Community Water System Improvements, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://www.nfwf.org/programs/ sustain-our-great-lakes-program
ODOT - Local Programs Funding: ODOT - Office of Planning Local Funding Opportunities homepage. Provides descriptions and links to each program including the Small Cities, Municipal Bridges, Transportation Alternatives, Safety Funding, Local Major Bridge, Credit Bridge and MetroParks programs.	**Funding Source:** Ohio Department of Transportation (ODOT) **Match:** varies **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Research or Academic Institutions **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Bikeways, Pedestrian, Bike Safety Program, Storm Water Improvement **Website:** http://www.dot.state.oh.us/ Divisions/Planning/LocalPrograms/Pages/ LocalFundingOpportunities.aspx
ODOT - Division of Planning Administered Funding Programs: Homepage for all ODOT - Division of Planning Administered Federal Funding Programs including transit. Provides descriptions and links to all current funding programs homepages.	**Funding Source:** Ohio Department of Transportation (ODOT) **Match:** varies **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Research or Academic Institutions, School Districts **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Vehicles, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment, Mobility Management, Transit Center Facility, Transit Operation, Bikeways, Pedestrian, Bike Safety Program, Helmets, Pedestrian Safety Program, Planning, Freight **Website:** http://www.dot.state.oh.us/Divisions/ Planning/New/Pages/Funding.aspx

	FUNDING RESOURCES CONTINUED
ODOT - Program Resource Guide: The Ohio Department of Transportation (ODOT) Program Resource Guide is intended to provide a "one-stop shopping" document to ODOT's constituents –local governments, transportation advocacy groups, planning organizations and Ohio's citizens. This resource demonstrates several funding programs.	**Funding Source:** Ohio Department of Transportation (ODOT) **Match:** varies **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, School Districts, Non-Profits **Project Category:** Road, Bridge, Safety, Traffice Signal Upgrade, Transit Capital, Vehicles, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment, Mobility Management, Transit Center Facility, Transit Operating, Bikeways, Pedestrian, Bike Safety Program, Helmets, Pedestrian, Bike Safety Program, Helmets, Pedestrian, Safety Plan, Planning, Freight, Nutrient Reduction, Dredged Material, Storm Water Improvement, Sewer Construction, Community Water System Improvements, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/Documents/ProgramResourceGuide.pdf
ODNR Coastal and Estuarine Land Conservation: This program provides funds to purchase significant coastal and estuarine lands within Ohio's Lake Erie Watershed, as well as conservation easements on such lands.	**Funding Source:** Ohio Department of Natural Resources (ODNR) **Match:** 50% **Eligible Applicants:** Counties, Municipalities/Townships, Metroparks, Port Authorities, Sewer Districts **Project Category:** Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-odnr/coastal-management
ODNR Coastal Management Assistance Grants: This programs provides funding for habitat restoration, coastal land acquisition, water quality, coastal planning, public access, education/outreach, research, and data collection.	**Funding Source:** Ohio Department of Natural Resources (ODNR) **Match:** varies **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, Research or Academic Institutions, Non-Profits **Project Category:** Planning, Nutrient Reduction, Storm Water Improvement, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-odnr/coastal-management

FUNDING RESOURCES CONTINUED	
ODNR Land and Water Conservation Fund: This program provides funding for the acquisition, development, and rehabilitation of recreational areas.	**Funding Source:** Ohio Department of Natural Resources (ODNR) **Match:** 50% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts **Project Category:** Bikeways, Pedestrian, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-odnr/real-estate
ODNR Natureworks Grants: This program provides funding for the acquisition, development, and rehabilitation of recreational areas.	**Funding Source:** Ohio Department of Natural Resources (ODNR) **Match:** 25% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts **Project Category:** Bikeways, Pedestrian, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-odnr/real-estate
ODNR Recreational Trails Program: This program provides funds for the development of urban trail linkages, trailhead & trailside facilities, acquisition of easements & property, development & construction of new trails, improving access for people with disabilities, and environment & safety education programs related to trails.	**Funding Source:** Ohio Department of Natural Resources (ODNR) **Match:** 20% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Non-Profits **Project Category:** Bikeways, Pedestrian, Bike Safety Program, Pedestrian Safety Program, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-odnr/real-estate
ODSA Community and Economic Development Programs: The link is the central site for the four Office of Community Development administered programs - the (1) Community Development Program, (2) Community Development Corporation Economic Development Program, (3) Economic Development Loan and Public Infrastructure Grant Program, and the (4) Residential Public Infrastructure Grant program.	**Funding Source:** Ohio Development Services Agency (ODSA) **Match:** varies **Eligible Applicants:** Counties, Municipalities/ Townships, Sewer Districts, Non-Profits **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Bikeways, Pedestrian, Pedestrian Safety Program, Planning, Storm Water Improvement, Sewer Construction, Wastewater Treatment Plant Improvements, Community Water System Improvements **Website:** https://www.development.ohio.gov/cs/cs_edcgrantee.htm

	FUNDING RESOURCES CONTINUED
OEPA - Financial Assistance Programs: OEPA financial assistance homepage houses information on all grant programs. Provides descriptions and links to each program including the Alternative Fuel Vehicle Conversion, Clean Water Act, Community Recycling and Litter Prevention, Diesel Emissions Reduction, Brownfield Technical Assistance, Harmful Algal Blooms, Home Sewage Treatment Systems, Lake Erie Protection, Mosquito Control, Ohio Environmental Education, Recycling Market Development, Scrap Tire, Surface Water Improvement, Targeted Brownfield Assessment, Water Pollution Control, Water Resource Restoration, Water Supply and Drinking Water Assistance, and Volkswagen Mitigation programs.	**Funding Source:** Ohio Environmental Protection Agency (OEPA) **Match:** varies **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, Research or Academic Institutions, School Districts **Project Category:** Vehicles, Nutrient Reduction, Dredged Material, Storm Water Improvements, Sewer Construction, Wastewater Treatment Plant Improvements, Community Water Systm Improvements, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://epa.ohio.gov/Do-Business/Get-Help/ Financial-Assistance
OEPA Water Resource Restoration Sponsor Program: This program provides funding through the EPA for stream and wetland restoration and preservation.	**Funding Source:** Ohio Environmental Protection Agency (OEPA) **Match:** N/A **Eligible Applicants:** Counties, Municipalities/ Townships, Metroparks, Port Authorities, Sewer Districts, Non-Profits **Project Category:** Storm WaterImprovement, Community Water System Improvements, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://epa.ohio.gov/defa/wrrsp
Ohio State Infrastructure Bank (SIB): The State Infrastructure Bank provides loans to fund highway, rail, transit, intermodal, and other transportation facilities and projects. Projects must produce revenue to amortize debt and also contribute to the connectivity of Ohio's transportation system and further its goals (such as corridor completion, economic development, competitiveness in a global economy, and quality of life).	**Funding Source:** Ohio Department of Transportation (ODOT) **Match:** N/A **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Port Authorities **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Vehicles, Transit Center Facility, Bikeways, Pedestrian, Freight **Website:** http://www.dot.state.oh.us/Divisions/ Finance/Pages/StateInfrastructureBank.aspx
Ohio Traffic Safety Office: This grant program provides funding to be used for projects such as traffic safety education, enforcement, and engineering. Funds are used based on problem identification to reduce fatal and injury crashes.	**Funding Source:** Ohio State Highway Patrol - Safety Office **Match:** varies **Eligible Applicants:** Counties, Municipalities/ Townships, Research or Academic Institutions, School Districts **Project Category:** Safety **Website:** https://ohiohighwaysafetyoffice.ohio.gov/ index.aspx#gsc.tab=0

FUNDING RESOURCES CONTINUED	
Pilot Program for Transit-Oriented Development Planning (Section 5309): This program provides funding to local communities to integrate land use & transportation planning. Projects must examine ways to improve economic development and ridership while fostering connectivity and accessibility.	**Funding Source:** Federal Transit Administration (FTA) **Match:** 20% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Port Authorities **Project Category:** Road, Bridge, Safety, Transit Capital, Transit Center Facility, Transit Operating, Bikeways, Pedestrian, Planning **Website:** https://www.transit.dot.gov/TODPilot
Public Transportation Innovation (Section 5312): This program provides funding to develop innovative products and services assisting transit agencies in better meeting the needs of their customers.	**Funding Source:** Federal Transit Administration (FTA) **Match:** varies **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Port Authorities, Research or Academic Institutions, Non- Profits **Project Category:** Intelligent Transportation Systems, Computer Hardware/Software Communications, Equipment, Mobility Management **Website:** https://www.transit.dot.gov/funding/grants/public-transportation-innovation-5312
State and Community Highway Safety Grant Program (Section 402): The State and Community Highway Safety Grant Program provides grants to states to improve driver behavior and reduce deaths and injuries from motor vehicle-related crashes.	**Funding Source:** Ohio Traffic Safety Office **Match:** N/A **Eligible Applicants:** Counties, Municipalities/ Townships, Port Authorities, School Districts, Non-Profits **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Bike Safety Program, Helmets, Pedestrian Safety Program, Planning **Website:** https://ohiohighwaysafetyoffice.ohio.gov/index.aspx#gsc.tab=0
State Capital Improvement Program: The State Capital Improvement Program provides funding for road and other infrastructure improvements. Eligible projects are for improvements to roads, bridges, culverts, water supply systems, wastewater systems, storm water collection systems, and solid waste disposal facilities.	**Funding Source:** Ohio Public Works Commission (OPWC) **Match:** varies **Eligible Applicants:** Counties, Municipalities/ Townships, Port Authorities, Sewer Districts **Project Category:** Road, Bridge, Storm Water Improvement, Sewer Construction, Wastewater Treatment Plant Improvements, Community Water System Improvements **Website:** https://pwc.ohio.gov/Programs/All-OPWC-Funding-Programs#56412-state-capital-improvement

	FUNDING RESOURCES CONTINUED
State of Good Repair (5337): This program provides funding for maintenance, replacement, and rehabilitation of existing high-intensity fixed guideway and high-intensity motorbus systems to maintain a state of good repair.	**Funding Source:** Federal Transit Administration (FTA) **Match:** 20% **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Port Authorities **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Intelligent Transportation Systems, Computer Hardware/Software, Transit Center Facility, Planning **Website:** https://www.transit.dot.gov/funding/grants/state-good-repair-grants-5337
Surface Transportation Block Grant Program: The Surface Transportation Block Grant program (STBG) provides flexible funding that may be used by states and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.	**Funding Source:** Northeast Ohio Areawide Coordinating Agency (NOACA) **Match:** 0-20% **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Metroparks, Port Authorities **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Vehicles, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment, Mobility Management, Transit Center Facility, Bikeways, Pedestrian, Planning **Website:** https://www.noaca.org/community-assistance-center/funding-programs
Technical Assistance & Standards Development (5314a): This program provides funding for technical assistance programs and activities that improve the management and delivery of public transportation and development of the transit industry workforce.	**Funding Source:** Federal Transit Administration (FTA) **Match:** 20% **Eligible Applicants:** Transit Agencies **Project Category:** Transit Capital, Transit Operating **Website:** https://www.transit.dot.gov/funding/grants/technical-assistance-standards-development-5314a
The People for Bikes Community Grant Program: PeopleForBikes Community Grant Program supports bicycle infrastructure projects and targeted advocacy initiatives that make it easier and safer for people of all ages and abilities to ride.	**Funding Source:** People for Bikes and Bike Industry Partners **Match:** 50%+ **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, Non-Profits **Project Category:** Road, Bridge, Bikeways **Website:** http://peopleforbikes.org/grant-guidelines/

FUNDING RESOURCES CONTINUED	
Transportation Alternatives: The Transportation Alternatives Set-Aside authorizes funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities such as historic preservation and vegetation management, and environmental mitigation related to storm water and habitat connectivity; recreational trail projects; Safe Routes to School projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways.	**Funding Source:** Northeast Ohio Areawide Coordinating Agency (NOACA) **Match:** 0-20% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Intelligent Transportation Systems, Transit Center Facility, Bikeways, Pedestrian, Planning, Storm Water Improvement, Natural Habitat Preservation and Restoration **Website:** https://www.noaca.org/ community-assistance-center/funding-programs
Transportation for Livable Communities Initiative (TLCI): NOACA's Transportation for Livable Communities Initiative (TLCI) provides assistance to communities and public agencies for transportation planning studies and capital projects that promote TLCI program livability objectives and NOACA goals.	**Funding Source:** Northeast Ohio Areawide Coordinating Agency (NOACA) **Match:** 0-20% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts **Project Category:** Road, Bridge, Safety, Traffic Signal Upgrade, Transit Capital, Transit Center Facility, Bikeways, Pedestrian, Planning **Website:** https://www.noaca.org/community-assistance-center/funding-programs/ transportation-for-livable-communities-initiative-tlci
Transportation Review Advisory Council: The Transportation Review Advisory Council (TRAC) was established to help the Ohio Department of Transportation develop and modify a project selection process and which approves funding for the development of and construction of the Major New Capacity Program. The major new capacity project selection process operates under the purview of TRAC. Projects must be greater than $12 million which increase the capacity of a transportation facility or reduce congestion.	**Funding Source:** Ohio Department of Transportation (ODOT) **Match:** 20% **Eligible Applicants:** Counties, Municipalities/ Townships, Transit Agencies, Port Authorities **Project Category:** Road, Bridge, Transit Capital, Intelligent Transportation Systems, Transit Center Facility **Website:** http://www.dot.state.oh.us/trac/Pages/ TRAC-Application.aspx
Urban Paving Program: The ODOT Urban Paving Program provides funds to cities for surface treatment and resurfacing projects located on State and U.S. Routes within city corporation limits. Eligible projects are those that have a Pavement Condition Rating (PCR) of 55 or worse according to ODOT's Pavement Condition Rating System.	**Funding Source:** Ohio Department of Transportation (ODOT) **Match:** 20% **Eligible Applicants:** Counties, Municipalities/Townships **Project Category:** Road, Bridge **Website:** https://www.transportation.ohio.gov/wps/ portal/gov/odot/programs/program-resource-guide/ urban-paving

	FUNDING RESOURCES CONTINUED
Urbanized Area Formula Grants (Section 5307): The Urbanized Area Formula Funding program provides funds to urbanized areas (50,000+ population) and to governors for transit capital and operating assistance in urbanized areas and for transportation-related planning.	**Funding Source:** Federal Transit Administration (FTA) **Match:** 10%/20%/50% **Eligible Applicants:** Counties, Municipalities/Townships Transit Agencies **Project Category:** Safety, Transit Capital, Vehicles, Intelligent Transportation Systems, Computer Hardware/Software, Communications Equipment Mobility, Management, Transit Center Facility, Transit Operating, Planning **Website:** https://www.transit.dot.gov/funding/grants/urbanized-area-formula-grants-5307
U.S. Economic Development Administration Programs: The US EDA works to establish a foundation of sustainable job growth and durable economies through innovation and regional collaboration. They provide economic development assistance to communities experiencing economic distress and help position them for economic prosperity and resiliency.	**Funding Source:** United States Economic Development Administration **Match:** varies **Eligible Applicants:** Counties, Municipalities/Townships, Research or Academic Institutions **Project Category:** Road, Bridge, Storm Water Improvement, Sewer Construction, Natural Habitat Preservation and Restoration **Website:** https://www.eda.gov/programs/eda-programs/
Water Pollution Control Loan Fund (WPCLF): This program provides financial and technical assistance to public or private applicants for planning, design, and construction of projects that protect or improve the quality of Ohio's water resources.	**Funding Source:** Ohio Environmental Protection Agency (OEPA) **Match:** N/A **Eligible Applicants:** Counties, Municipalities/Townships, Transit Agencies, Metroparks, Port Authorities, Sewer Districts, School Districts, Non-Profits **Project Category:** Planning, Storm Water Improvement, Sewer Construction, Wastewater Treatment Plant Improvement, Natural Habitat Preservation and Restoration, Resilience Efforts **Website:** https://epa.ohio.gov/defa/ofa#169544614-contacts

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A

Appendix

A

APPENDIX

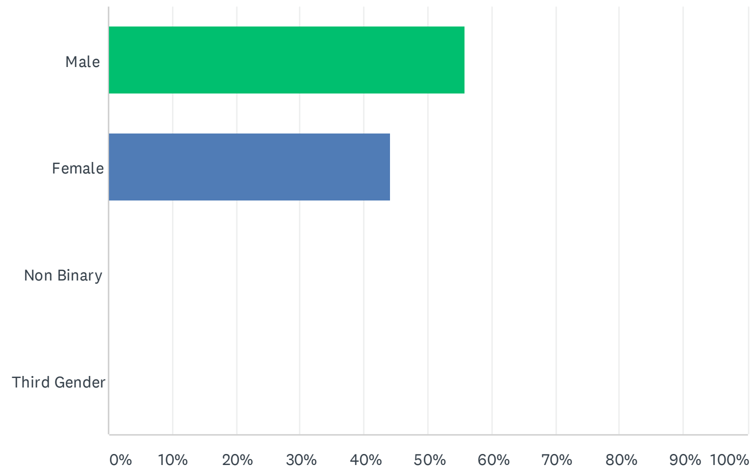
LIST

SURVEY RESULTS

Community Confluence Connectivity Survey SurveyMonkey

Q1 Gender (answer optional)

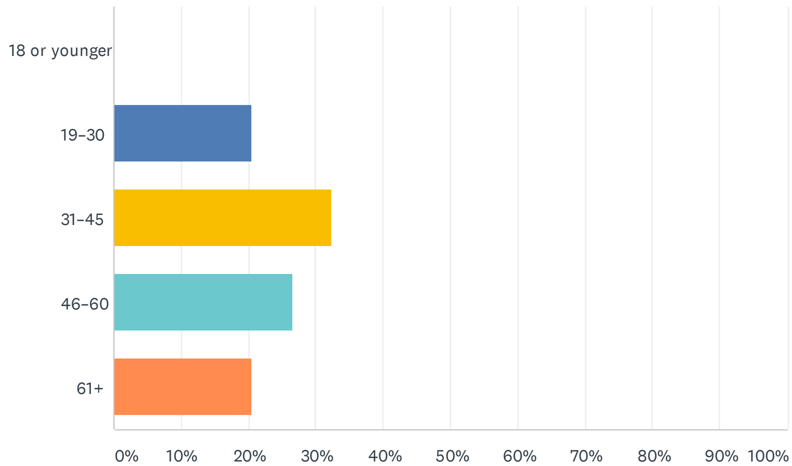
Answered: 34 Skipped: 2



ANSWER CHOICES	RESPONSES	
Male	55.88%	19
Female	44.12%	15
Non Binary	0.00%	0
Third Gender	0.00%	0
TOTAL		34

Q2 Age (answer optional)

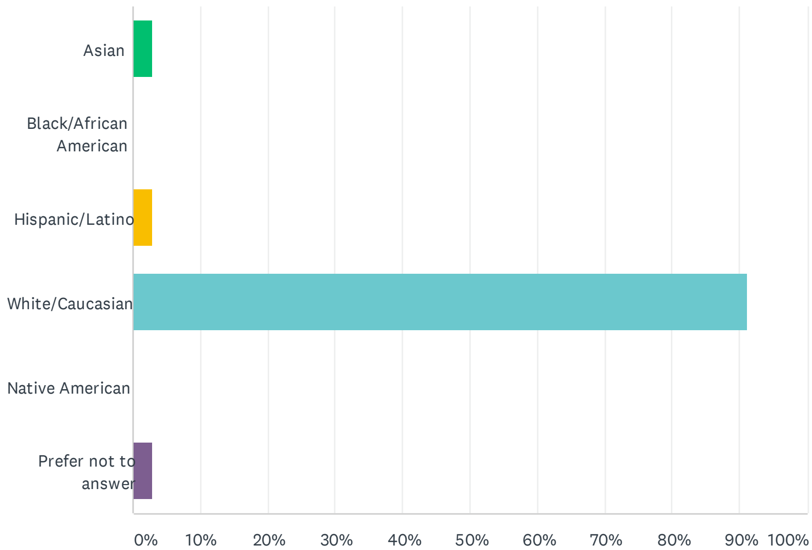
Answered: 34 Skipped: 2



ANSWER CHOICES	RESPONSES	
18 or younger	0.00%	0
19–30	20.59%	7
31–45	32.35%	11
46–60	26.47%	9
61+	20.59%	7
TOTAL		34

Q3 Identify your ethnicity

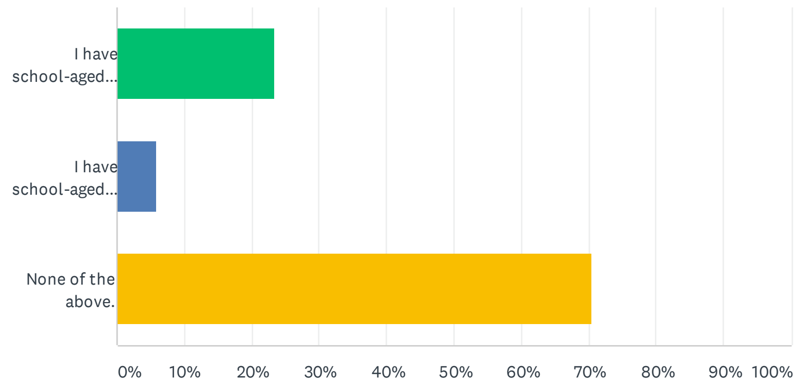
Answered: 34 Skipped: 2



ANSWER CHOICES	RESPONSES	
Asian	2.94%	1
Black/African American	0.00%	0
Hispanic/Latino	2.94%	1
White/Caucasian	91.18%	31
Native American	0.00%	0
Prefer not to answer	2.94%	1
TOTAL		34

Q4 Do you have school-aged children that live in your home or visit regularly?

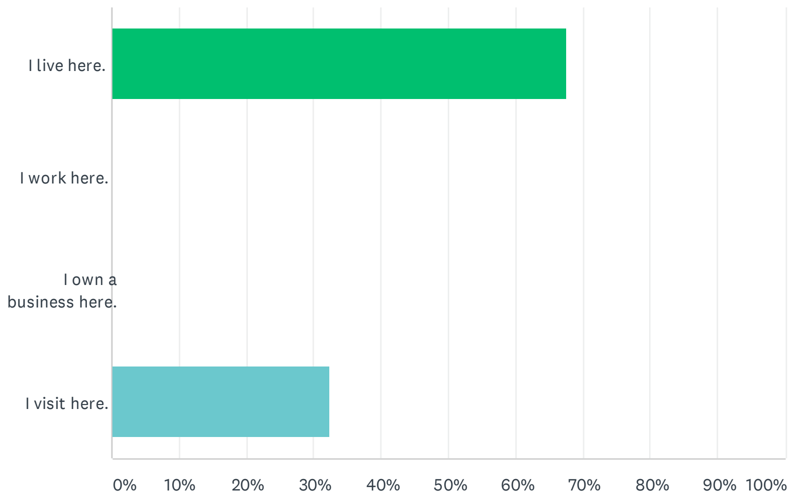
Answered: 34 Skipped: 2



ANSWER CHOICES	RESPONSES	
I have school-aged children living at home.	23.53%	8
I have school-aged children that regularly visit my home.	5.88%	2
None of the above.	70.59%	24
TOTAL		34

Q5 Which of the following best describes your relationship to the study area?

Answered: 34 Skipped: 2

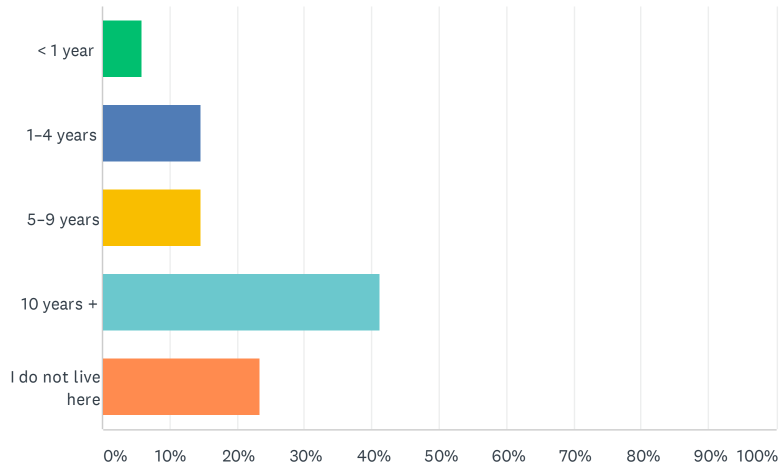


ANSWER CHOICES	RESPONSES	
I live here.	67.65%	23
I work here.	0.00%	0
I own a business here.	0.00%	0
I visit here.	32.35%	11
TOTAL		34

Community Confluence Connectivity Survey SurveyMonkey

Q6 How long have you lived in the study area?

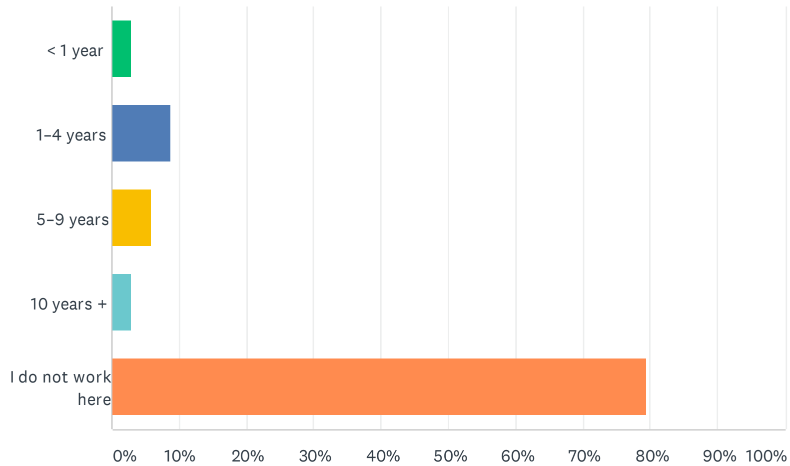
Answered: 34 Skipped: 2



ANSWER CHOICES	RESPONSES	
< 1 year	5.88%	2
1–4 years	14.71%	5
5–9 years	14.71%	5
10 years +	41.18%	14
I do not live here	23.53%	8
TOTAL		34

Q7 How long have you worked in the study area?

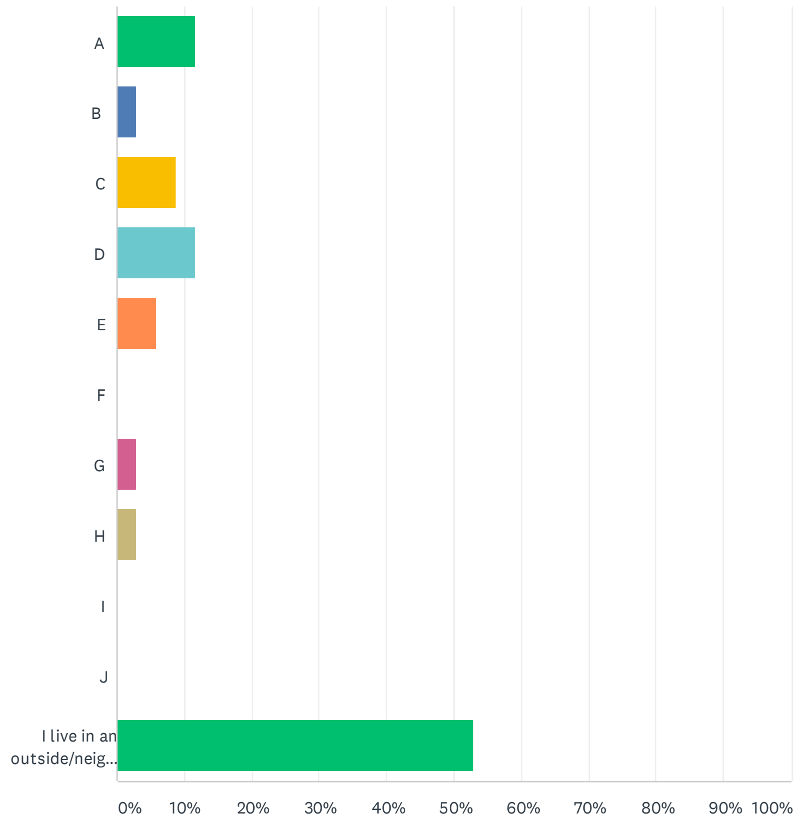
Answered: 34 Skipped: 2



ANSWER CHOICES	RESPONSES	
< 1 year	2.94%	1
1–4 years	8.82%	3
5–9 years	5.88%	2
10 years +	2.94%	1
I do not work here	79.41%	27
TOTAL		34

Q8 Where do you live? Please use the lettered areas on the map below.

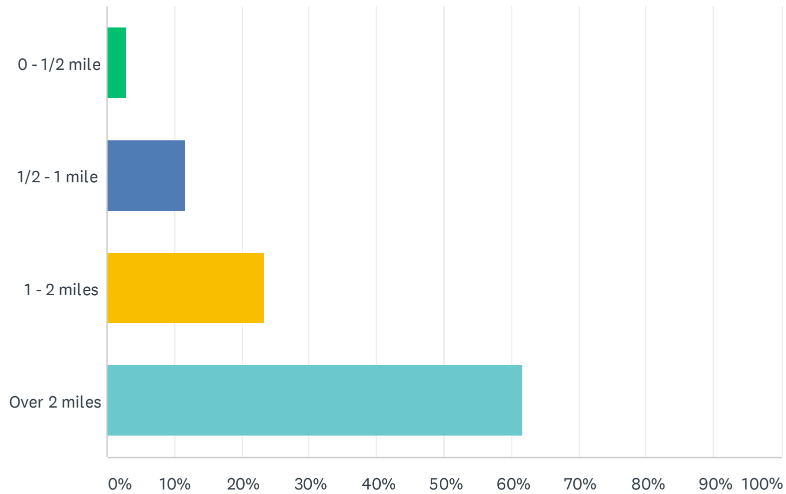
Answered: 34 Skipped: 2



ANSWER CHOICES	RESPONSES	
A	11.76%	4
B	2.94%	1
C	8.82%	3
D	11.76%	4
E	5.88%	2
F	0.00%	0
G	2.94%	1
H	2.94%	1
I	0.00%	0
J	0.00%	0
I live in an outside/neighboring community	52.94%	18
TOTAL		34

Q9 How far are you willing to walk?

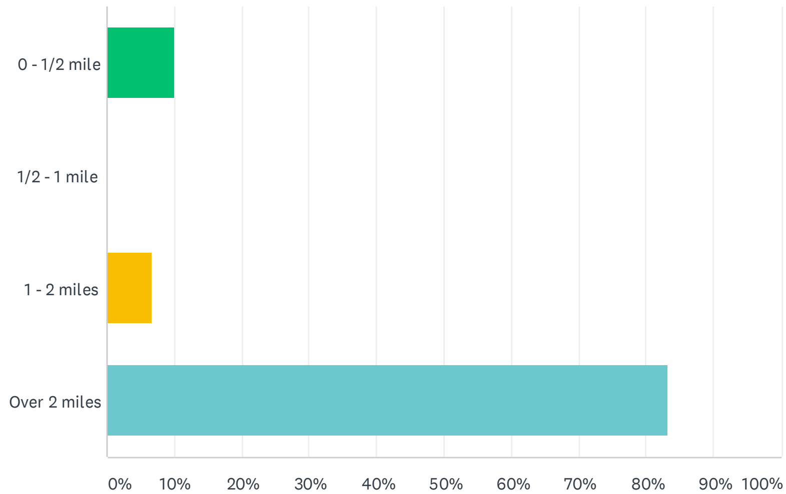
Answered: 34 Skipped: 2



ANSWER CHOICES	RESPONSES	
0 - 1/2 mile	2.94%	1
1/2 - 1 mile	11.76%	4
1 - 2 miles	23.53%	8
Over 2 miles	61.76%	21
TOTAL		34

Q10 How far are you willing to bike?

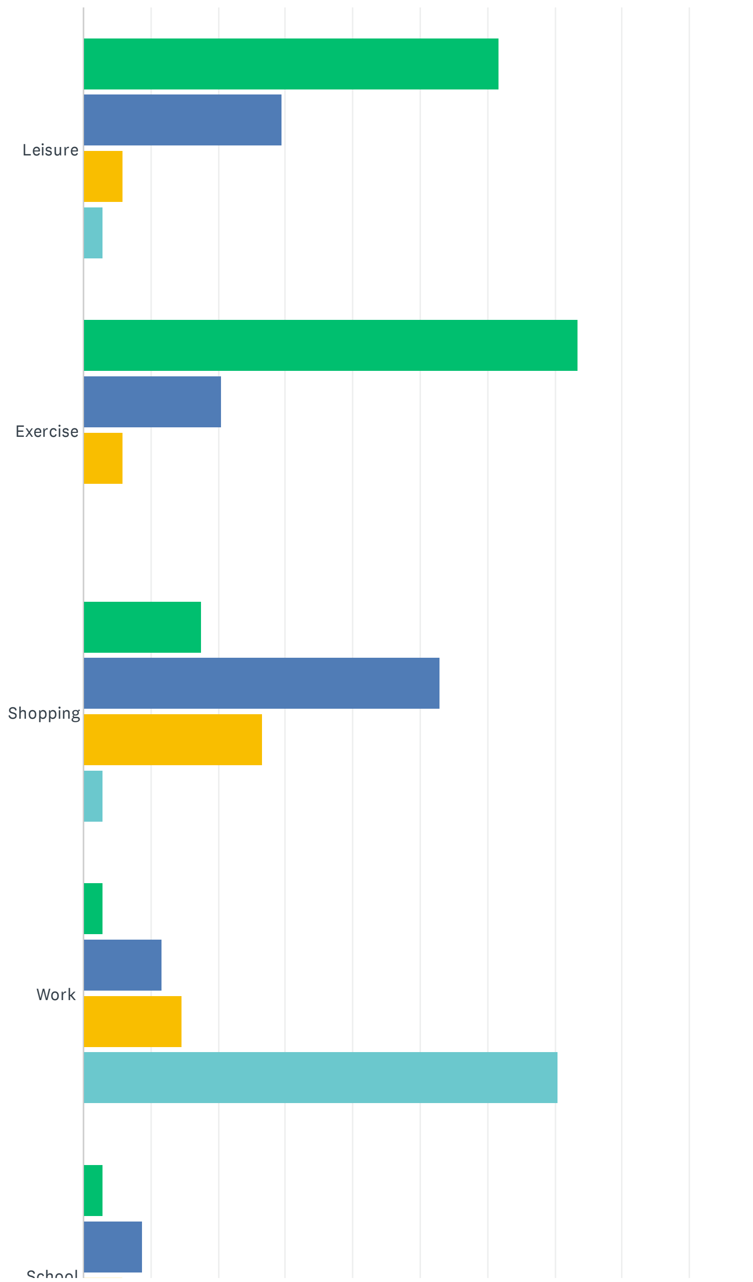
Answered: 30 Skipped: 6

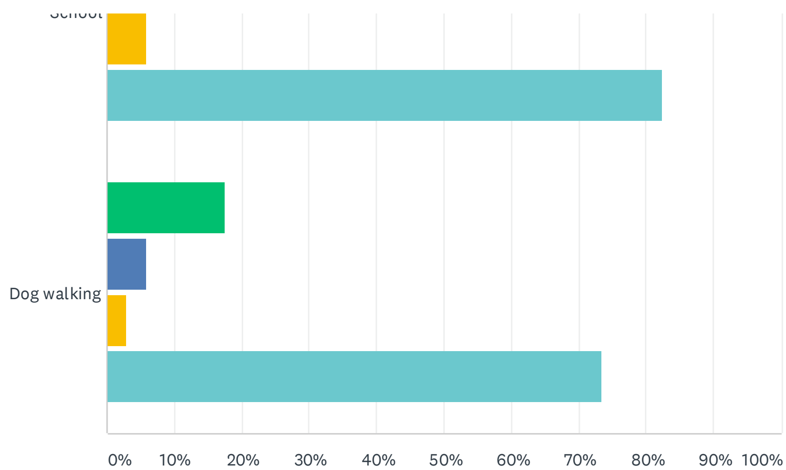


ANSWER CHOICES	RESPONSES	
0 - 1/2 mile	10.00%	3
1/2 - 1 mile	0.00%	0
1 - 2 miles	6.67%	2
Over 2 miles	83.33%	25
TOTAL		30

Q11 How often do you (or your children) walk or bike within the Study area for the following?

Answered: 34 Skipped: 2



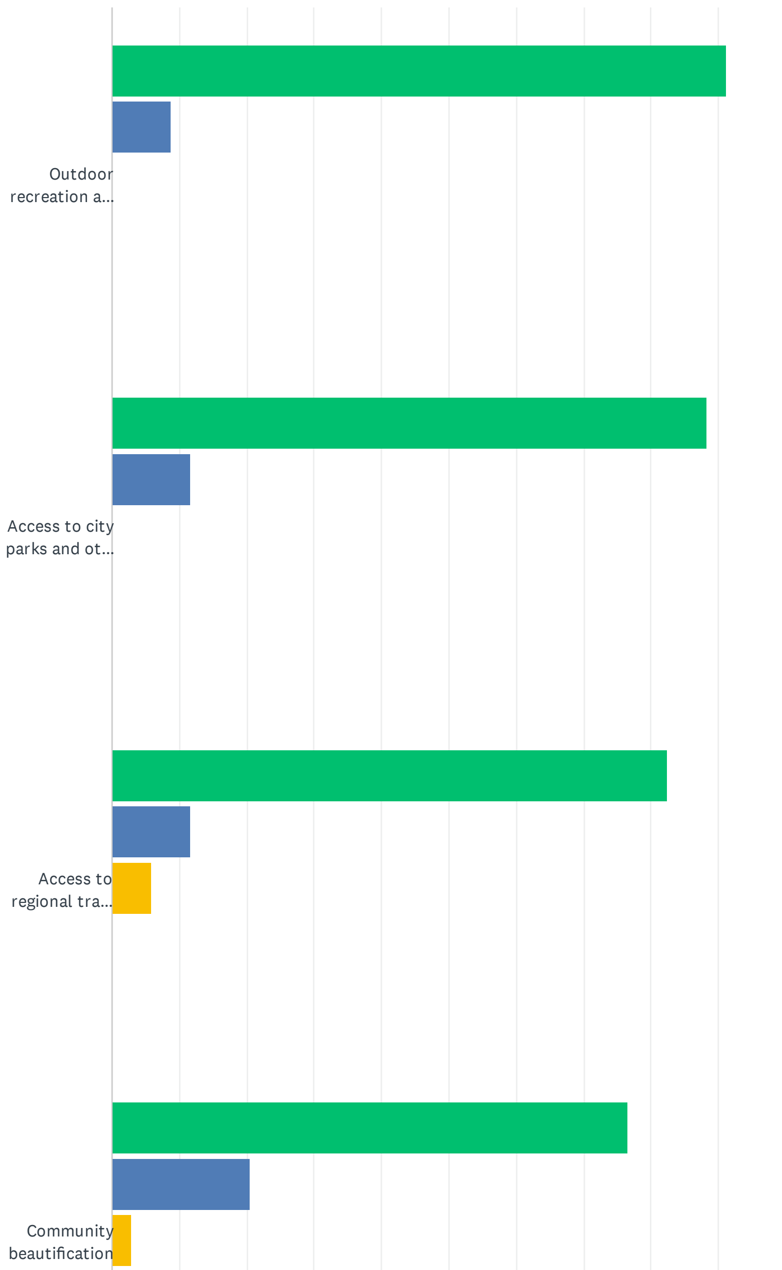


	FREQUENTLY	OCCASIONALLY	RARELY	NEVER	TOTAL	WEIGHTED AVERAGE
Leisure	61.76% 21	29.41% 10	5.88% 2	2.94% 1	34	3.50
Exercise	73.53% 25	20.59% 7	5.88% 2	0.00% 0	34	3.68
Shopping	17.65% 6	52.94% 18	26.47% 9	2.94% 1	34	2.85
Work	2.94% 1	11.76% 4	14.71% 5	70.59% 24	34	1.47
School	2.94% 1	8.82% 3	5.88% 2	82.35% 28	34	1.32
Dog walking	17.65% 6	5.88% 2	2.94% 1	73.53% 25	34	1.68

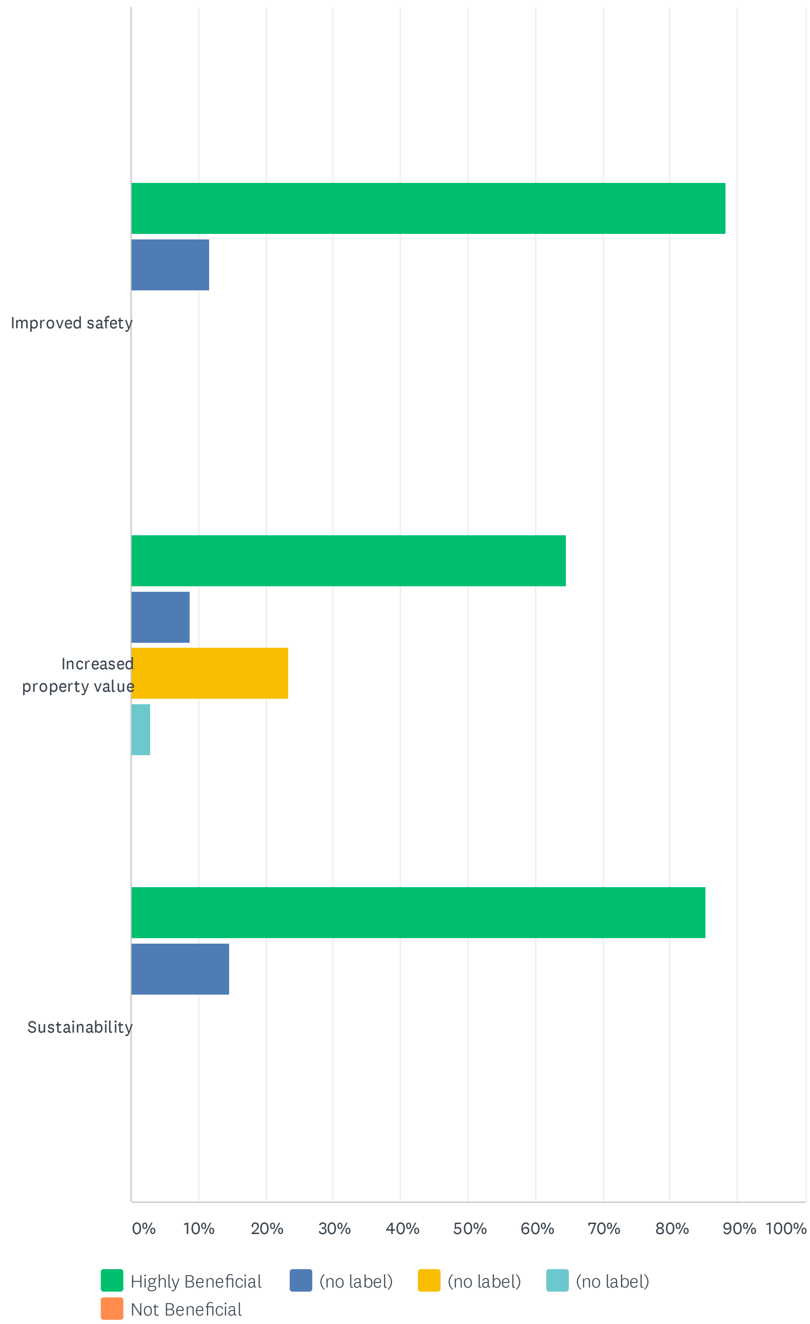
Community Confluence Connectivity Survey SurveyMonkey

Q12 Please rate the following benefits of well-connected and well-maintained pedestrian/bike routes/paths.

Answered: 34 Skipped: 2



14 / 28



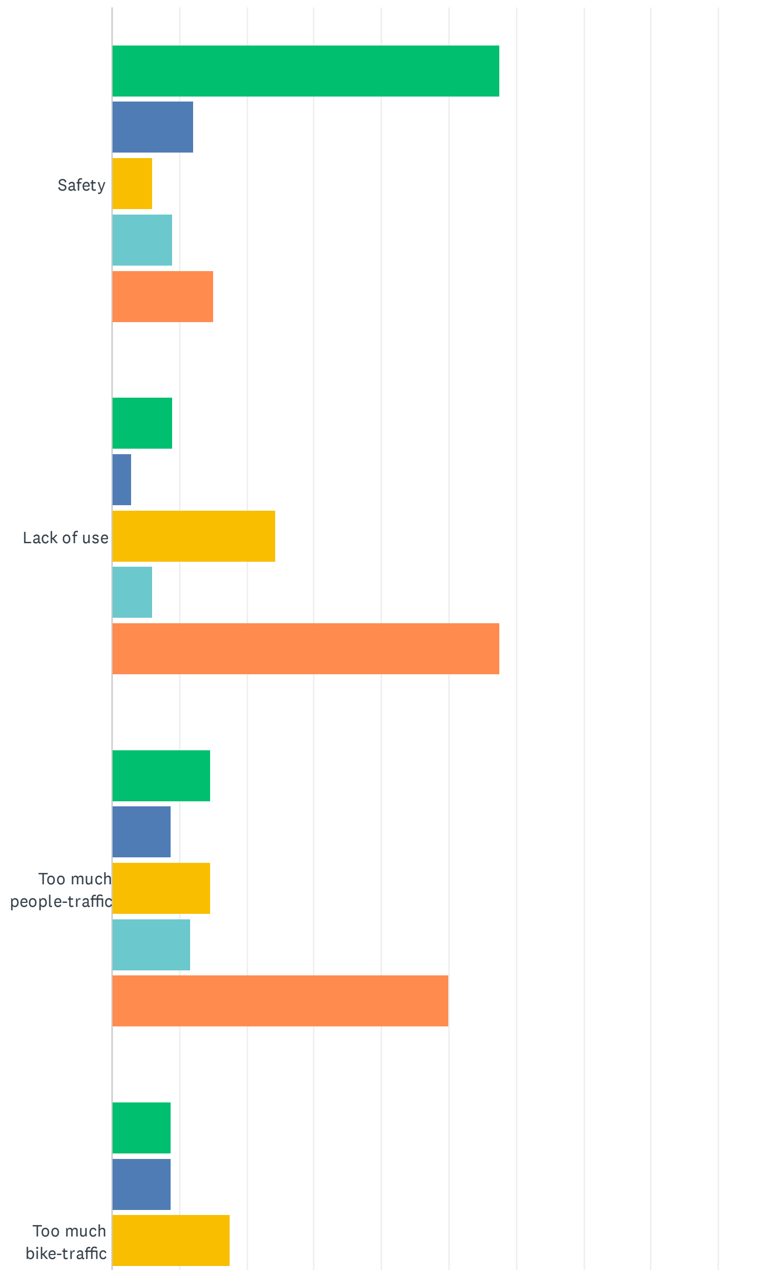
Improved safety
Increased property value
Sustainability
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Highly Beneficial
(no label)
(no label)
(no label)
Not Beneficial

Community Confluence Connectivity Survey SurveyMonkey

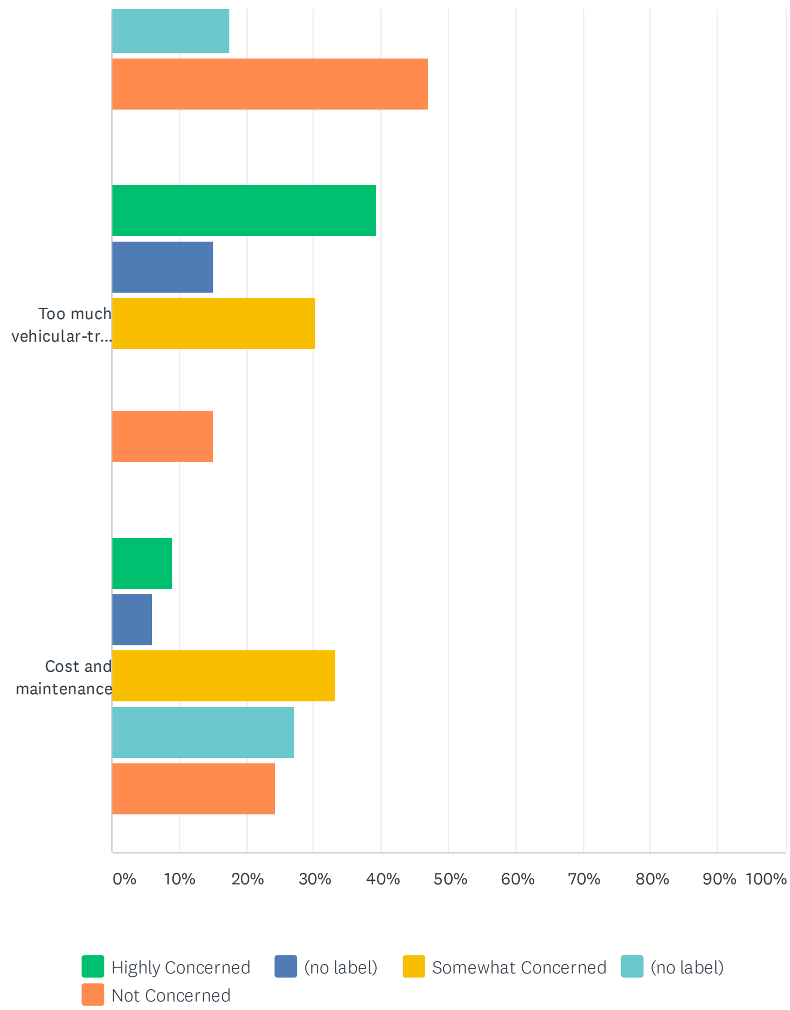
	HIGHLY BENEFICIAL	(NO LABEL)	(NO LABEL)	(NO LABEL)	NOT BENEFICIAL	TOTAL	WEIGHTED AVERAGE
Outdoor recreation and exercise	91.18% 31	8.82% 3	0.00% 0	0.00% 0	0.00% 0	34	4.91
Access to city parks and other amenities	88.24% 30	11.76% 4	0.00% 0	0.00% 0	0.00% 0	34	4.88
Access to regional trails and other regional amenities	82.35% 28	11.76% 4	5.88% 2	0.00% 0	0.00% 0	34	4.76
Community beautification	76.47% 26	20.59% 7	2.94% 1	0.00% 0	0.00% 0	34	4.74
Improved safety	88.24% 30	11.76% 4	0.00% 0	0.00% 0	0.00% 0	34	4.88
Increased property value	64.71% 22	8.82% 3	23.53% 8	2.94% 1	0.00% 0	34	4.35
Sustainability	85.29% 29	14.71% 5	0.00% 0	0.00% 0	0.00% 0	34	4.85

Q13 Please rate the following concerns you may have in regards to having connected pedestrian/bike routes/paths.

Answered: 34 Skipped: 2



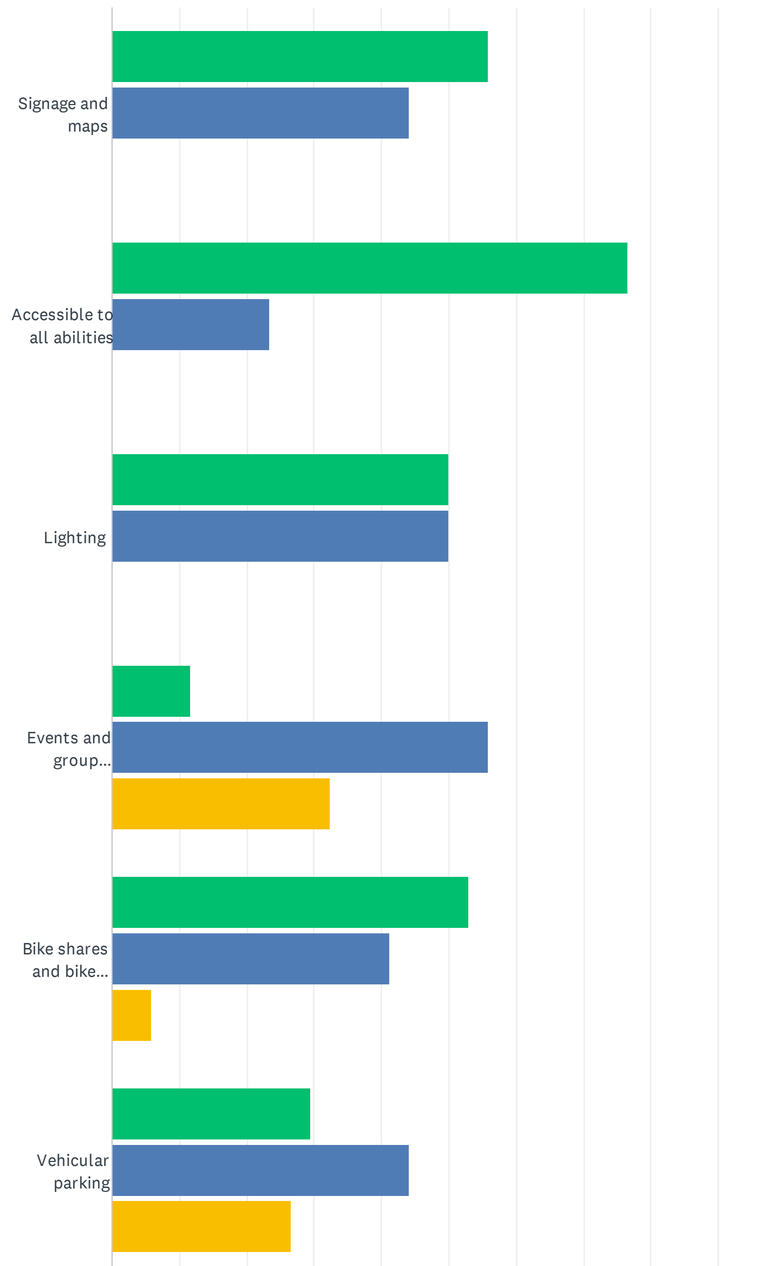
Community Confluence Connectivity Survey SurveyMonkey



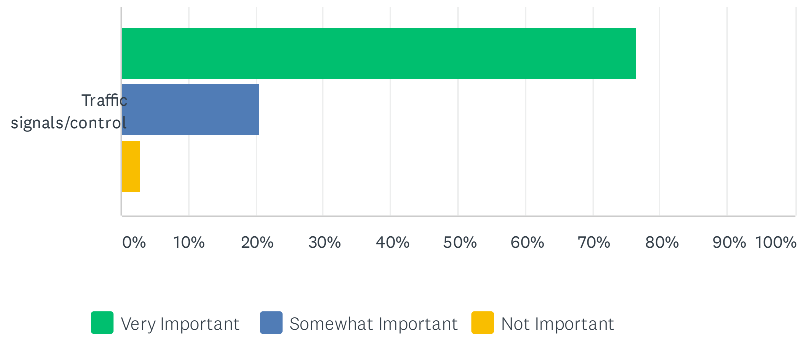
	HIGHLY CONCERNED	(NO LABEL)	SOMEWHAT CONCERNED	(NO LABEL)	NOT CONCERNED	TOTAL	WEIGHTED AVERAGE
Safety	57.58% 19	12.12% 4	6.06% 2	9.09% 3	15.15% 5	33	3.88
Lack of use	9.09% 3	3.03% 1	24.24% 8	6.06% 2	57.58% 19	33	2.00
Too much people-traffic	14.71% 5	8.82% 3	14.71% 5	11.76% 4	50.00% 17	34	2.26
Too much bike-traffic	8.82% 3	8.82% 3	17.65% 6	17.65% 6	47.06% 16	34	2.15
Too much vehicular-traffic	39.39% 13	15.15% 5	30.30% 10	0.00% 0	15.15% 5	33	3.64
Cost and maintenance	9.09% 3	6.06% 2	33.33% 11	27.27% 9	24.24% 8	33	2.48

Q14 How important are the following to making sure bicycle and pedestrian paths/facilities are well-used?

Answered: 34 Skipped: 2



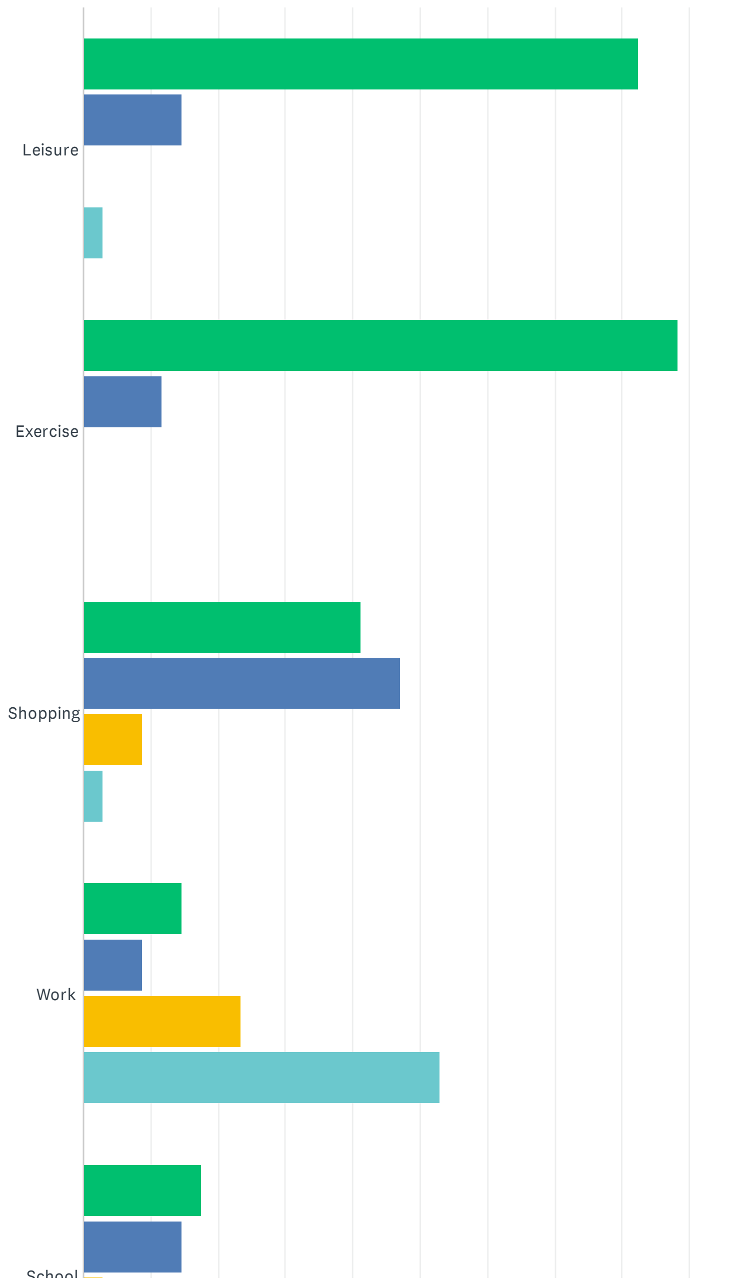
Community Confluence Connectivity Survey SurveyMonkey

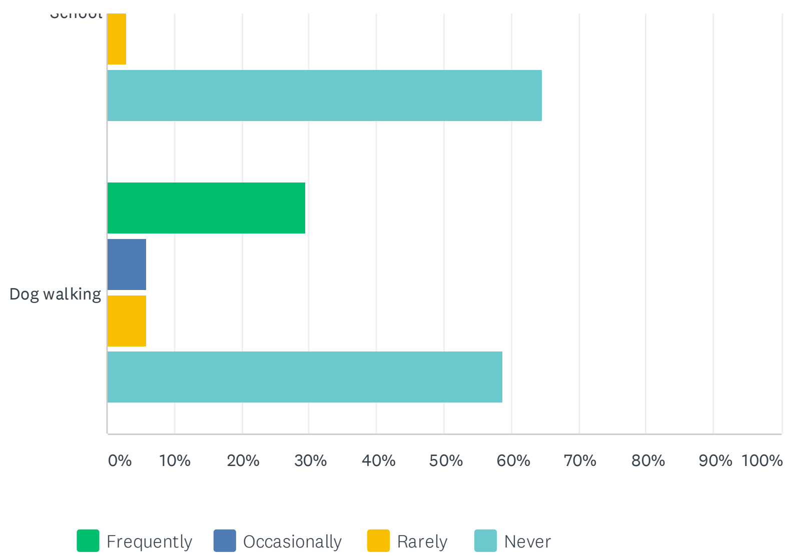


	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	TOTAL	WEIGHTED AVERAGE
Signage and maps	55.88% 19	44.12% 15	0.00% 0	34	2.56
Accessible to all abilities	76.47% 26	23.53% 8	0.00% 0	34	2.76
Lighting	50.00% 17	50.00% 17	0.00% 0	34	2.50
Events and group activities	11.76% 4	55.88% 19	32.35% 11	34	1.79
Bike shares and bike parking	52.94% 18	41.18% 14	5.88% 2	34	2.47
Vehicular parking	29.41% 10	44.12% 15	26.47% 9	34	2.03
Traffic signals/control	76.47% 26	20.59% 7	2.94% 1	34	2.74

Q15 If there were safe, connected pedestrian/bike paths within the study area, how often would you or your children use them for:

Answered: 34 Skipped: 2

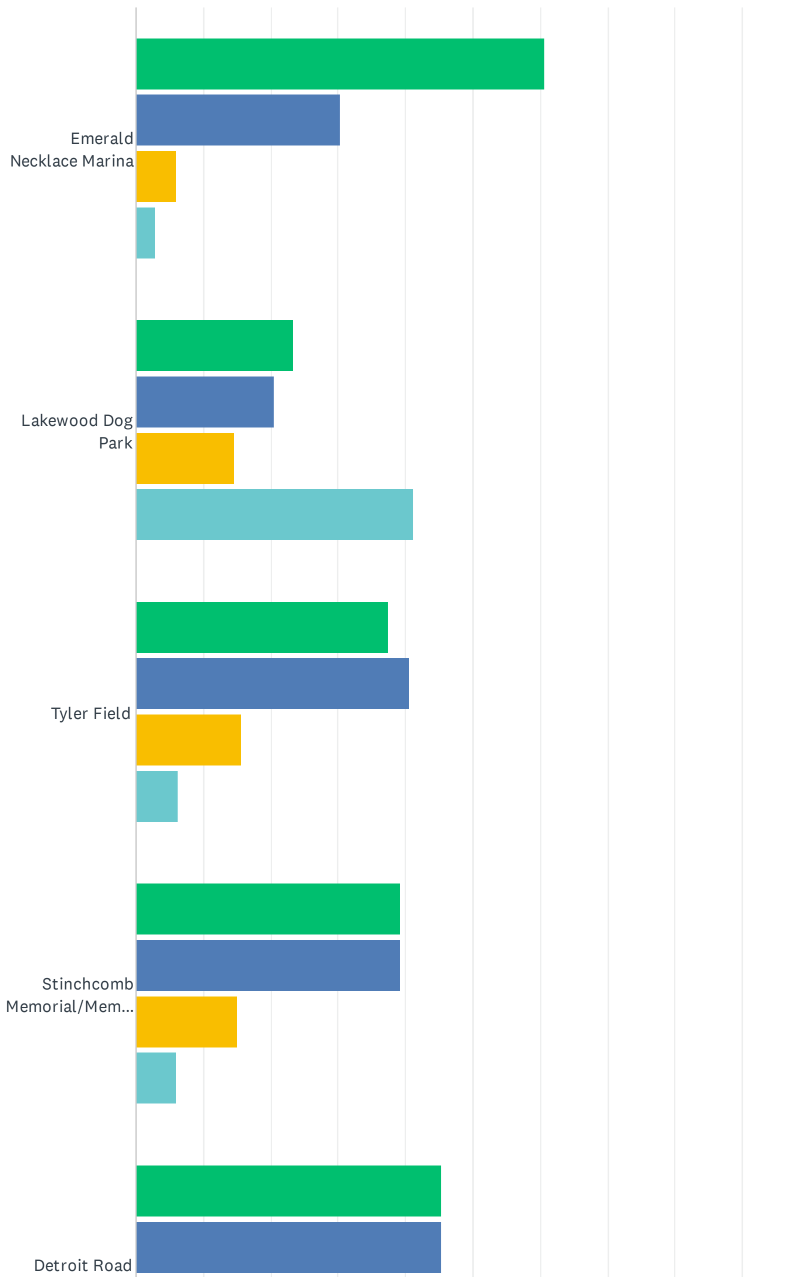


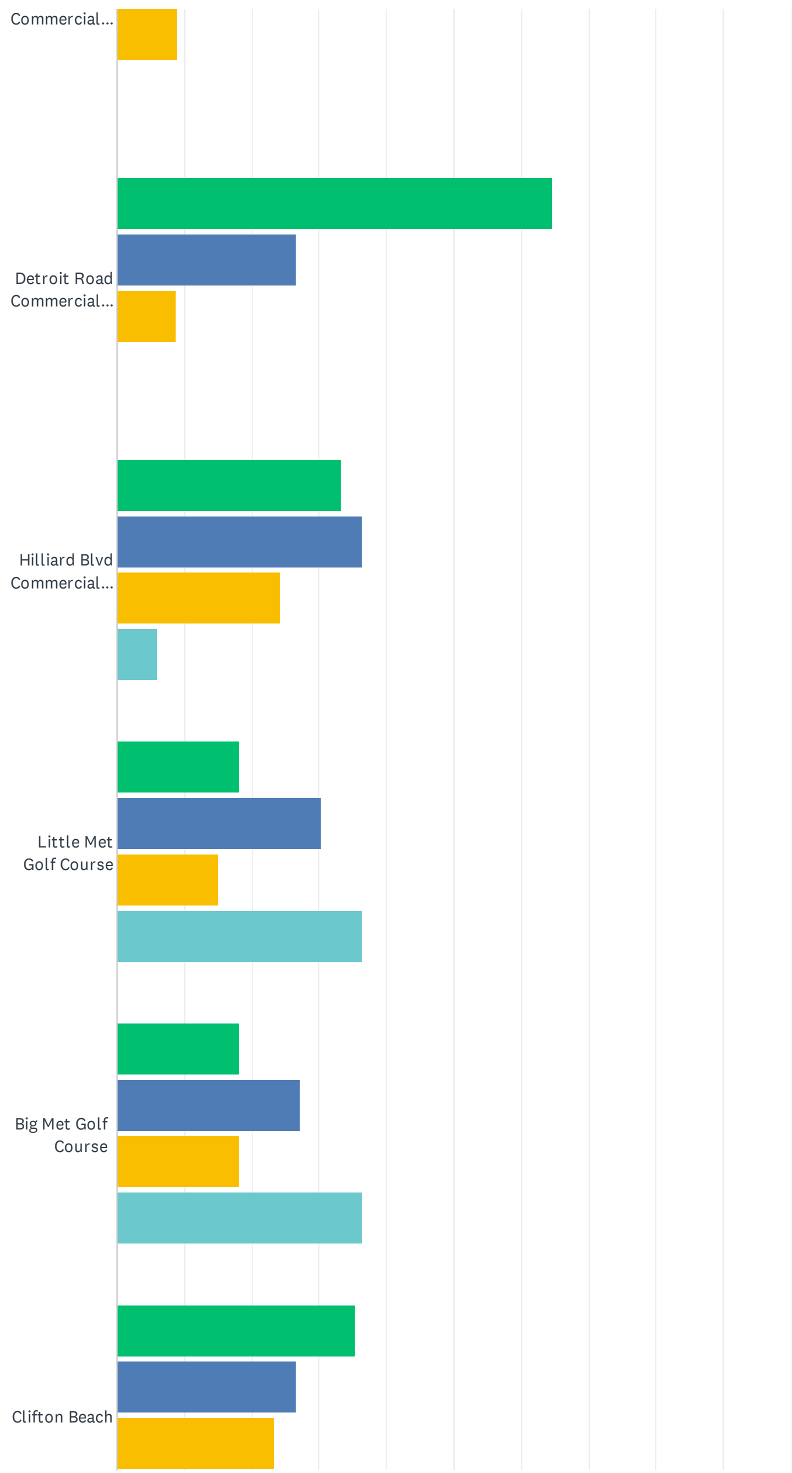


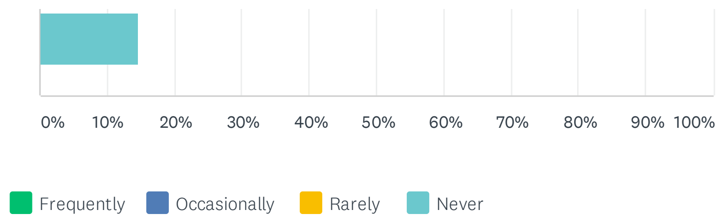
	FREQUENTLY	OCCASIONALLY	RARELY	NEVER	TOTAL	WEIGHTED AVERAGE
Leisure	82.35% 28	14.71% 5	0.00% 0	2.94% 1	34	3.76
Exercise	88.24% 30	11.76% 4	0.00% 0	0.00% 0	34	3.88
Shopping	41.18% 14	47.06% 16	8.82% 3	2.94% 1	34	3.26
Work	14.71% 5	8.82% 3	23.53% 8	52.94% 18	34	1.85
School	17.65% 6	14.71% 5	2.94% 1	64.71% 22	34	1.85
Dog walking	29.41% 10	5.88% 2	5.88% 2	58.82% 20	34	2.06

Q16 If there were safe, connected pedestrian/bike paths, how often would you walk or bike to the following destinations?

Answered: 34 Skipped: 2



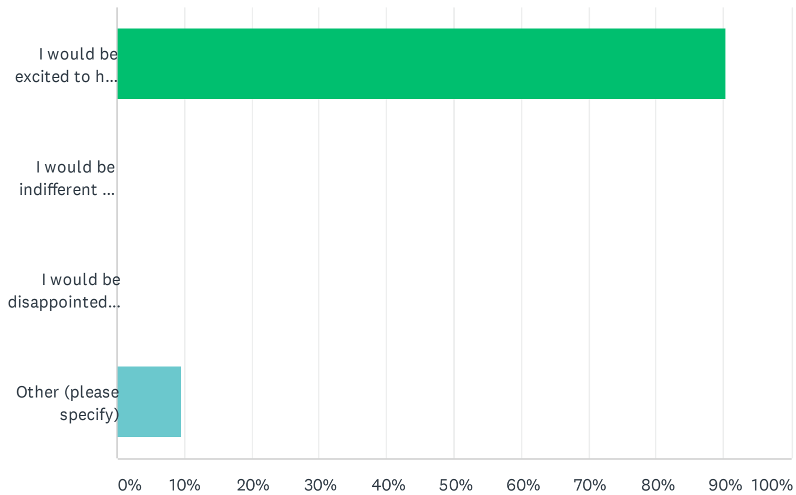

Commercial...
Detroit Road Commercial...
Hilliard Blvd Commercial...
Little Met Golf Course
Big Met Golf Course
Clifton Beach



	FREQUENTLY	OCCASIONALLY	RARELY	NEVER	TOTAL	WEIGHTED AVERAGE
Emerald Necklace Marina	60.61% 20	30.30% 10	6.06% 2	3.03% 1	33	3.48
Lakewood Dog Park	23.53% 8	20.59% 7	14.71% 5	41.18% 14	34	2.26
Tyler Field	37.50% 12	40.63% 13	15.63% 5	6.25% 2	32	3.09
Stinchcomb Memorial/Memorial Fields	39.39% 13	39.39% 13	15.15% 5	6.06% 2	33	3.12
Detroit Road Commercial District - Rocky River	45.45% 15	45.45% 15	9.09% 3	0.00% 0	33	3.36
Detroit Road Commercial District - Lakewood	64.71% 22	26.47% 9	8.82% 3	0.00% 0	34	3.56
Hilliard Blvd Commercial District	33.33% 11	36.36% 12	24.24% 8	6.06% 2	33	2.97
Little Met Golf Course	18.18% 6	30.30% 10	15.15% 5	36.36% 12	33	2.30
Big Met Golf Course	18.18% 6	27.27% 9	18.18% 6	36.36% 12	33	2.27
Clifton Beach	35.29% 12	26.47% 9	23.53% 8	14.71% 5	34	2.82

Q17 Overall, how do you feel about improving the pedestrian and bike routes/paths in our communities?

Answered: 31 Skipped: 5



ANSWER CHOICES	RESPONSES	
I would be excited to have this new amenity in my city.	90.32%	28
I would be indifferent and don't intend to use them.	0.00%	0
I would be disappointed or concerned.	0.00%	0
Other (please specify)	9.68%	3
TOTAL		31

FIELD AUDIT MINUTES

Community Confluence

meeting minutes

Welcome! About the meeting:

Subject:	Virtual Field Audit
Date:	April 8, 2020 **Time:** 1:00PM – 4:00PM
Location:	Zoom Online Meeting
Call in:	Desktop URL: https://ohm-advisors.zoom.us/j/687765143. Password: 294173 Mobile: +16468769923,,687765143#

Meeting facilitator: Matt Hils

Time Slot:	Topic:	Notes:
1:00 – 1:15	✓ Introduction	
1:15 – 3:15+/-	✓ Virtual Field Audit (with break)	Kristin Saunders and Kat Suing
3:15 – 3:30	✓ Next Steps: ○ **Intersection counts** not happening (at least for the time being.) ○ **Traffic & safety analysis** ○ Present **Draft Wayfinding Survey** to Client Team by 4/20. ○ **Launch Wayfinding Survey** 4/24. ○ **Virtual Community Workshop (VCW) strategy** to Client Team by 5/1. ○ **Refine VCW#1 strategy and launch advertising** by 5/8. ○ **Close Wayfinding Survey** 5/15. ○ **Project Team Meeting #2**: 5/20. Present existing conditions, technical analysis, and wayfinding summary. ○ **Virtual Community Workshop #1**: 5/27.	
3:30 – 3:45	✓ Final comments	

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Attendance: *Matt Hils (OHM), Shawn Leininger (Cuyahoga County Planning Commission – CCPC), Katelyn Milius (City of Lakewood), Kristin Saunders (TDG), Jim Sonnhalter (CCPC), Sara Maier (Cleveland Metroparks – CM), Kelly Coffman (CM), David Baas (Lakewood), Eric Mack (Cuyahoga County Public Works), Sean McDermott (CM), Rich Snyder (City of Rocky River), Mark Papke (Lakewood), Katrina Suing (OHM), Shelly Sollars (Rocky River) Melissa Thompson (NOACA)*

Presentation recordings:

Video recording (large file – may take a little while to download):
https://ohm.filegenius.com/downloadPublic/p2pbvbdd3rydkd1

Audio only: https://ohm.filegenius.com/downloadPublic/3j2gahuw4eiv7jf

Notes:

A. "How to Zoom" review

B. Field Audit:

Prior to the 4/8/2020 meeting, Project Team members visited the site, individually, to review specific segments, take notes on them, and take photographs. All associated files are available at:
https://www.dropbox.com/sh/wh7gwtsmc3o8s3m/AADgeQ5iSVofgyX8a6Vaig8Ha?dl=0

The Consultant Team then developed a presentation and audit tool for the virtual field audit at the following Google Earth Project link:
https://drive.google.com/open?id=1P9rlhzyt9K7bstDkAZFK8Id1AuLp7fVL&usp=sharing

Segment 1: Clifton Boulevard

Presentation comments:

1. Non-continuous sidewalk
2. Not designed for bikes/peds
3. Hard to cross (frequency, width of road)
4. Narrow sidewalks on bridge (no room to pass other peds)
5. Exposure to vehicles due to minimal buffering from street
6. Overall uncomfortable
7. Issues at transitionary points
8. Bad aesthetics; not designed for pedestrians
9. Piecemeal bike accommodations that don't achieve connection

Additional meeting participant comments:

10. Fences ugly and uncomfortable
11. Incredible views from bridge
12. Kelly: sidewall on bridge is low for pedestrians and cyclists. Uncomfortable for those afraid of heights
13. No buffer between lane and sidewalk
14. Rich: screening on fence to prevent snow and ice from hitting houses and businesses below

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Segment 2: Lake Road

Presentation comments:

1. Bridge isn't pleasant
2. Some quick corners that may create blind spots
3. Crosswalks lacking definition/visibility
4. Only continuous walk on west side
5. Poor pavement conditions
6. No inherent bicycle accommodations
7. Nice views but lacking pedestrian treatments
8. Since its very short, enhancement very possible

Additional participant comments:

9. Underpass under rail lines dark
10. Sara: Lake road sidewalks just north of rail bridge need improvements. Bench area in same area is "sad".

Segment 3: Sloane

Presentation comments:

1. Pleasant to walk
2. Nice sidewalks
3. No bicycle accommodations
4. Zero places to cross except at two endpoints
5. Blind spot for bike/ped
6. Especially need crosswalk for commercial plaza in middle
7. Nice parallel crosswalks for residential streets
8. Drivers pull into crosswalks @ Detroit/Sloane intersection
9. Very poor pavement @ Detroit/Sloane intersection

Additional participant comments:

10. Motorists go a little fast
11. No crosswalk to Dollar Tree plaza
12. No crosswalk to get across street to bus shelter
13. David: Lakewood aware of missing crosswalks in general. Sloane used as a motorist "cut through", hence the fast traffic.

Segment 4: W. Clifton Road

Presentation comments:

1. Discomfort under railroad bridge due to darkness
2. Mix of sharrows and bike lanes that start & stop (generally continuous)
3. Sloping near railroad overpass
4. Good size of sidewalk and treelawn
5. Nice views
6. No bike accommodations
7. Good amount of pedestrian signals
8. Angled & on-street parking north of Detroit

Additional participant comments:

9. Long driveways allow for lots of off-street parking
10. Kristin:
    a. Over 3,000 vehicles, you want to see bike lanes
    b. Sharrows are no longer a bike facility. More wayfinding than anything.
    c. NACTO 8 to 80 – 1,500 vehicles. See NACTO All Ages and Abilities for guidance.

    d. In Austin, parking reallocation guide/policy
    e. See FHWA Bikeway Selection Guide for facility selection assistance.
11. Eric: Proposed Lake Ave. bike facility
12. Katelyn: Looked at full bike lanes, 7' parking with 4' bike lanes, 11' lanes – not workable.
13. Matt: North end of W. Clifton: double right hand turn lanes. Katelyn: traffic study has not been performed, to determine if both are warranted.

Segment 5: Wooster

Presentation comments:

1. Missing some sidewalk on west side of Wooster
2. Crossing not frequent enough
3. Lots of drive aprons
4. Cross slopes on existing walks exceed 2%
5. No bicycle infrastructure
6. Incredible views but little protection from drop off & cliff
7. Potential overlook location

Additional participant comments:

8. Kelly: Look at possibility of reducing continuous center turn lane. Is it really needed?
9. Hilliard intersection: Chaotic, uncomfortable, unhospitable. "Pork chop" free right turn lane is notable opportunity.
10. Hilliard Road bridge: 5 lanes, with 3 lanes on both ends.
11. Top of Rockcliffe: Lack of wayfinding. Sean: Improving the wayfinding not a priority for CM.
12. Melissa: Along Hillard and Wooster: opp's for ped. Islands.

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Segment 6: Detroit

Presentation comments:

1. Road very wide
2. Parking lots need better screening
3. No bicycle infrastructure but some faded sharrows
4. Curve at Harry Buffalo / RTA turnaround is tight and awkward
5. Uneven & damaged pavement
6. Decent crossings
7. Sidewalks buffered from street by on-street parking
8. Big curb cut at Donato's Pizza
9. Awesome views on bridge but noisy due to fast cars

Additional participant comments:

10. Rich: Open to additional improvements, beyond those made with recent repaving. Plans to add more trees. Can improve crosswalks. No road diet (high traffic volume). Looking at thermoplastic striping – will hold off until this study makes recommendations.

Segment 7: Park Loop

Presentation comments:

1. All Purpose Trail within Rocky River Reservation 10' wide
2. Very pleasant walk and beautiful
3. Minimal crossings of the park drives
4. The loop trail can get crowded (conflicts between peds + cyclists)
5. Easy topography once you're inside park
6. Not sure where to go once you're inside (bikes/peds) = wayfinding
7. Confusing mix of roads – lots of different paths; sometimes unclear which are for cars and which are for bikes/peds
8. Some roads have directional arrows for traffic direction; others don't
9. Missing path/sidewalk on south side of entrance into park; peds/cyclists have to be on road with cars
10. No crosswalk across park entrance aside from on main road

Additional participant comments:

11. Sean: Missing gap planned to be filled.

Segment 8: Valley Pkwy

Presentation comments:

1. Very fast cars
2. Path halts at Dog Park
3. Path not necessarily wide enough for fast-moving cyclists and pedestrians at same time
4. Faded crosswalk @ Dog Park; fast-moving cars are intimidating for peds to cross
5. Some bicyclists on road; some on path.
6. Pleasant enough walk because of space in between path & road

Additional participant comments:

7. Top of Parkway:
    a. Kelly: path often congested. Need for on-road facilities, too.
    b. Matt: Excited about coordinating gateway treatments for both Lakewood and CM.
8. Sean:
    a. A lot of on-road bicyclists and groups of on-road bicyclists,
    b. Valley Parkway 2018: 6.3M visits. 3.0 recreational
    c. No changes planned to the parkway. Maybe move segments of APT adjacent to road.
9. Kelly: CM wants to keep the parkway a PARKWAY.
10. Kelly: CM has internal working group for bike-car conflicts

Segment 9: Rock Cliff Entrance

Presentation comments:

1. Very chaotic intersection, then pleasant residential ride, then steep topography
2. Sidewalk too close to traffic on Wooster Bridge over I-90
3. Drivers encroached on crosswalk
4. “No Right Turn on Red” should be at Hilliard/Wooster intersection. EB/WB turn radius too generous.
5. Crosswalks too long at Wooster/Hilliard
6. Missing wayfinding to Rocky River Reservation
7. Topography is a challenge on Rock Cliff
8. The multiuse path on Rock Cliff Dr. ends 500’ prematurely from Wooster Road
9. Nice viewshed at beginning of trail on Rock Cliff
10. Inadequate warning for bicyclists on trail that intersection & stop sign are approaching
11. Felt very safe and pleasant where car traffic wasn’t allowed

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Segment 10: Hilliard Blvd

Presentation comments:

1. Bicyclist was almost hit by a car backing out of their driveway
2. Fast traffic
3. Strange pedestrian crossing on bridge
4. Temporary sidewalk closure
5. Overlook on bridge with nice view

Additional participant comments:

6. New bridge will have 8' decorative fence with chain link.
7. Bridge is in preliminary study stage. No preliminary deliverables have been provided by the consultant yet.
8. Jim: Desire to improve walkability east of bridge.
9. Eric: An APT has been looked at, to connect to Hogsback.

Segment 11: Valley Pkwy

Presentation comments:

1. Not many places to cross but no real need
2. Pleasant walking/biking experience
3. Sharrows throughout road
4. Parking lot but no bike parking where 11 & 12 intersect
5. Physical buffer between path & traffic on bridge
6. Awesome views of the bridges overhead

Additional participant comments:

7. Matt: The entry experience occurs all the way from the top of the hill to the crosswalk south of the bridge. Maybe there are traffic calming and entry enhancement treatments that can help with the transition. Kelly: Interested in recommendations for this; vehicles with trailers to marina and trucks to water treatment plan add complexities. Kristin: A park in Pittsburgh has a similar entry, with recent improvements. Will send images of it.
8. Sean: Hogsback temporarily closed due to COVID. Matt: What about closing it permanently? Sean: This has been considered, but it would push too much traffic to other entrances. Plus, vehicular access to Stinchcomb Memorial. CM talking to County about "extending" Hilliard bridge project down to Riverside with APT and roundabout at Hogsback, and trail down Hogsback.
9. Kristin: Greenfield Bridge and Pocusset St is a street that was sliding down the hill – so it has been closed to cars and was repaved for bikes/peds. It is a great link. The link shows the street with a crosswalk treatment at the bottom of a hill and on a curve, that works most of the time.

Segment 12: Riverside Drive

Presentation comments:

1. Narrow sidewalks in some places
2. No crossing from South/West side to sidewalk that continues along east side of 237
3. No bicycle infrastructure
4. Extremely steep topography
5. Felt unsafe at freeway crossing
6. Lots of traffic at big intersections
7. Pleasant experience until freeway

Additional participant comments:

8. Katelyn and David: Lakewood working to figure out appropriate bicycle infrastructure on Riverside, including cycletrack. Katelyn or David will send the concepts they have developed, to date, for further concept development.
9. Sean: Top-of-Hogsback intersection is a real problem. Cars too fast, hard to see around the corner.
10. Katelyn: Hilliard intersection – Highway access important. Looking at Hilliard bike lanes from Madison and highway bridge. Lakewood not sure what might happen at the intersection.
11. Sean: Unclear on Riverside whether stiped area is for on-street parking or bike lane.
12. Sean: Madison intersection is unsafe for pedestrians, due to cars nosing out, to see oncoming traffic.
13. Acute angle intersection restriping has worked well – lowest cost option.
14. Sean: Crosswalk across Riverside at Graber needed.
15. Sean: Car wash curb cut too big.
16. Jim: Simone's sidewalk has no separation from parking lot. Very uncomfortable.

C. All agreed to the following next steps:

a. **Intersection counts** not happening (at least for the time being.)
b. Traffic & safety analysis
c. Present **Draft Wayfinding Survey** to Client Team by 4/20.
d. **Launch Wayfinding Survey** 4/24.
e. **Virtual Community Workshop (VCW) strategy** to Client Team by 5/1.
f. **Refine VCW#1 strategy and launch advertising** by 5/8.
g. **Close Wayfinding Survey** 5/15.
h. **Project Team Meeting #2**: 5/20. Present existing conditions, technical analysis, and wayfinding summary.
i. **Virtual Community Workshop #1**: 5/27.

Please review these minutes, and provide comments by 4/20/2020, after which the minutes will be considered complete.

VIRTUAL WORKSHOP RESULTS SUMMARY

Virtual Workshop Comments Summary

Street Segment	Comments
Segment 1	Sidewalk needs to be widened to allow two people to pass safely without risk of falling in street into oncoming traffic. Biking either direction in street very unsafe due to need to cross lane of oncoming traffic. Because designed like an on ramp, vehicles travel very fast. Stop sign for eastbound traffic at ramp would help.
Segment 1	Widen walking path and barrier between vehicles and pedestrians
Segment 1	When walking from Lakewood to River, there isn't a sidewalk at the west end of the bridge to safely continue into River, which is why I don't walk Clifton into Rocky River.
Segment 1	Wider Sidewalks need to be installed just over Lakewood border And connect to crosswalk intersection (next to newly installed bike lane) A path to continue on lake rd into rocky river would be ideal, but not sure how to do this with exit ramp Wider sidewalks on the bridge to accommodate more than one person & allow for bike traffic too The new bike lane has created traffic build up during rush hour times because it bottle necks the traffic right at Lakewood border.. which is frustrating for commuters when bike lane is empty and traffic backed up
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Segment 1	Wider sidewalks, less freeway-grade infrastructure, better connections to neighborhood street adjacent to Clifton/Lake
Segment 1	widen the sidewalk to make for a better experience
Segment 1	Please widen the sidewalk
Segment 1	we must have a wider sidewalk so you may go both ways without having the feeling of scarcity
Segment 1	Make a wider bike lane by getting rid of the side walk in the midddle and using that for the cars and get is of the south sidewalk bc it leads to a dead end to make the north sidewalk wider because it is the only one acesible
Segment 1	Wider Sidewalks need to be installed just over Lakewood border And connect to crosswalk intersection (next to newly installed bike lane) A path to continue on lake rd into rocky river would be ideal, but not sure how to do this with exit ramp Wider sidewalks on the bridge to accommodate more than one person & allow for bike traffic too The new bike lane has created traffic build up during rush hour times because it bottle necks the traffic right at Lakewood border.. which is frustrating for commuters when bike lane is empty and traffic backed up
Segment 1	widen the sidewalk to make for a better experience
Segment 1	Bike or pedestrian traffic lights. Wider sidewalks on bridge. Different color bike Lanes. Protected bike Lanes.
Segment 1	we must have a wider sidewalk so you may go both ways without having the feeling of scarcity
Segment 1	Itâ€™s really weird how thereâ€™s no clear walking path once you get over the bridge and into rocky river. You almost have to cross over to battersea or play frogger to continue down lake. No easy way to get up to Detroit on the ramp either.
Segment 1	I agree with the point made in the video. When I do walk this road, having the sidewalk end where is does in not convenient at all for pedestrians.

Segment 1	The pedestrian experience is comfortable. The sidewalk feels safe and wide enough. However, there are few chances to cross the road. I think instead of altering the configuration of the road, this could be improved with signage for walkers informing them of the reduced opportunity to cross. It would be nice to give greater clear space for bikers near the interchange.
Segment 1	Remove highway signs. Extend protective bike lanes.
Segment 1	More spacious sidewalk, better separation from traffic, full sidewalks on both sides / directions
Segment 1	Make a wider bike lane by getting rid of the side walk in the midddle and using that for the cars and get is of the south sidewalk bc it leads to a dead end to make the north sidewalk wider because it is the only one acesible
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Segment 1	The protected bike lane in Lakewood works well, but there is no sidewalk in that section, so where to walk is uncertain and discouraging. Over the bridge, the sidewalk feels very narrow and high up from the road surface. The sidewalk feels unsafe for biking with kids, and the road over the bridge is definitely unsafe. Protected bike lanes are needed across the bridge, the sidewalk on the bridge should be wider, and a sidewalk or clearer share-use path and better car barriers are needed for the Clifton blvd extension part.
Segment 1	Bike lanes that are separated from the street itself.
Segment 1	The best place to bike on Clifton is the short stretch of road thats in-between West Clifton and Lake Rd. The wide lane is super nice, comfortable and feels safe, however once you leave that area you get thrown into two terrible sections of Clifton. The bridge is super unsafe and people do not give you any space while biking, especially around the Marion ramps. I have been almost hit on multiple occasions while trying to go straight while both biking and running from the bridge into River and vice versa . The bridge is by far the most dangerous area to be a non motorist because the sidewalk is tiny and because it's designed like a highway people treat it as such. I would like to see the full bike lane continued over the bridge and ideally the Marion ramps removed in the long term (I know thats in the Rocky River Master plan). In the short term the entrances to the Marion ramps could be significantly shortened and better signage for pedestrians needs to be put in. A sidewalk also needs to be extended from Linda St under the overpass so that pedestrians can safely walk between the two cities, at the moment you are forced to cross the street at beginning of the ramps themselves, which is a very unsafe section of the road and there is only striped paint to keep drivers from hitting pedestrians and cyclists. Continuing the bike lane and providing better pedestrian infrastructure over the bridge would allow for a safer and more comfortable multi-model connection between River and Lakewood. The intersection in Lakewood near W Clifton is another terrible intersection for cycling and pedestrians. The number of roads leading into the intersection itself create confusion for pedestrians and cyclists. As a cyclist going east bound you are forced to leave a super nice protected bike lane and thrown on to a crazy 7 lane street were cars speed by you. While the side lane is large, you have to deal with parked cars, buses and turning cars so there is never a time when you can't be cautious while biking. While certainly unpopular with residents, I would recommend that street parking be removed from Clifton in it's entirety and replace it with a protected bike lane running the length of Lakewood and potentially into Cleveland. Being a resident of Lakewood I run and bike down Clifton all the time and since COVID-19 has started the number of cyclists I have seen using Clifton has dramatically increased, while in turn the number of cars I have seen has on average decreased, this shows a shift in the way people are getting around and it should be embraced. Another recommendation I would give for Clifton, but it could be implemented on many of our streets would be raised crosswalks. So many drivers fly through the stop signs that are on Clifton, barely even stopping to look at all. I can't even count the amount of times I have almost been hit while trying to run or walk through intersections, it's absolutely ridiculous. Raised crosswalks would force drivers to actually slow down while approaching intersections, and would make walking, running and biking significantly safer for Lakewood residents. My last recommendation since this is Metropark specific would be better signage on Clifton. There is little to no signage that I know of on Clifton about the Metroparks. I run west down Clifton towards the Detroit Hill multiple times a week and have never noticed anything. I would recommend signs pointing in the direction of the Detroit Hill entrance that can be both seen from the road and sidewalk. To allow for greater awareness and access to the park.
Segment 1	Please widen the sidewalk
Segment 1	The sidewalk , when it exists, is narrow uneven and covered in loose gravel. The sidewalk on the bridge is too narrow for passing. There is a gorgeous view from the bridge- completely obscured by the horrible chain link fence. It would be wonderful if the bridge widened for pedestrians in the middle and provided a lookout on either to enjoy the views. Itâ€™s such. A waste to hide !

Segment 1	Widen the sidewalk or make it more cohesive to get to Rocky River from Lakewood. Also, consider only having bikes and pedestrians on the north side of the street over the bridge; it feels like a highway and is hard to get to the south side of lake road/clifton.
Segment 1	Use traffic calming measures to reduce the frequency of speeding cars, widen the sidewalks crossing the bridge and provide a separate protected bike lane. Trying to cross or bike as cars are trying to take the exit to Detroit heading westbound is impossible to do safely.
Segment 1	The bridge from Clifton in Lakewood to Rocky River is too much like a highway. There is not too much traffic, in my experience, but it moves fast. The designated bike lane on the Lakewood side has slowed traffic effectively. The only complaint I have about that bike lane is that it commonly accumulates rubble from the road as fast moving cars brush bits of dust and gravel there, and any debris that falls from trees accumulates there too. HOWEVER, the SIGNIFICANTLY LARGEST PROBLEM is the highway-style design of the roadway, specifically the highway exit-style ramp from the Rocky River landing overhead to Detroit Avenue (Westbound) and the parallel entrance ramp Eastbound from Detroit onto Lake/Clifton. There is NO REASON for this overbuilt mass of highway style infrastructure in the middle of an otherwise quiet residential neighborhood that has nowhere near enough traffic to justify it. Bicycling across this bridge (and certainly walking, as well) are most significantly impacted by these ramps. A cyclist on the road in either direction has to cross the ramp lane in order to continue west, as well as east, and especially eastbound has to be wary of traffic coming from the hidden perspective around the bend separated by the divider. THIS WHOLE RAMP SYSTEM SHOULD BE DISMANTLED and replaced by a simple two-lane surface road from Detroit to Lake, with a traffic light or stop sign at the intersection. This would make land available for greenspace or development, it would make the neighborhood significantly more attractive, and it would make the roadway safer for everyone, including automotive traffic.
Segment 1	Significant improvements to both bike and pedestrian infrastructure on the Rocky River portion of Clifton Road. The transition to from dedicated bike lane in Lakewood to unprotected bike access in Rocky River is jarring.
Segment 1	Heading west into Rocky River it is difficult to bike when the sidewalk ends at the Detroit Road access ramp. Heading east from Rocky River as the sidewalk ends at the Detroit Road acce there is no way to walk along Lake Road at the Detroit Rd access ramp. There is little walk ability between the communities at the edge of Rocky River. A sidewalk or connector would be helpful and safe.
Segment 10	Currently there is no real pedestrian access route to the Metroparks, from Lakewood, here.
Segment 10	Visually unpleasant, high speed traffic with too narrow sidewalks. Non-existent bike infrastructure. Feels like an onramp when headed eastbound into Lakewood
Segment 10	This street is higher traffic, but the sidewalks tend to be wide enough that it is comfortable as a pedestrian.
Segment 10	Sharrows.
Segment 10	The RR Master Plan has vision that should be implemented and this area would be greatly improved.
Segment 10	Traffic on Hilliard is fast. Without a bike lane, even with good clearance from vehicles, I often do not feel safe. The traffic light at Hilliard and Valley View is an activated light and bikes are generally not heavy enough to activate the road sensor. As a result it can be very difficult to make a left from Valley View on to Hilliard without dismounting and activating the signal for pedestrians. I prefer to avoid cycling on sidewalks but I sometimes use the sidewalk both on Hilliard and on Detroit to feel like I have more of a buffer between myself and traffic. In doing this however I may potentially put pedestrians at greater risk
Segment 10	Reduce lanes of traffic, widen sidewalks, dedicated bike lanes
Segment 11	Too much vehicular traffic flows through here and in some areas the pedestrian pathways are directly next to the road full of often speeding cars. Can make the park experience less enjoyable when there's a constant stream of vehicles next to you.

Segment 11	Signs need to be posted with common sense path rules. Dogs must be on leash and kept in the owners lane not across the entire path. Groups of people need to adhere to keeping in one lane, the same for baby strollers and families with kids and dogs. People stop in the middle of the path to take phone calls instead of stepping to the grass or to the side of the path. Basic courtesy is abhorrent. The Metroparks team do an amazing job of keeping the roads well marked, well manicured grass and cleanliness at every restroom and picnic area. The lack of courtesy of the people using the parks is what needs to be addressed. I would appreciate a sign on the beginning of every path in large print with actual set standards of path rules. Fines should be listed (even if not strongly patrolled) for people not having their pets on leashes. This is the only area of the Metropark where I see multiple people not doing this.
Segment 11	I run in the valley every day and know every section of it. The only really dangerous section is the area right outside the dog park. There is no barrier between the path and the road and the path is extremely narrow. On top of that, itâ€™s on a curve, so can be quite dangerous. There needs to be some protection for pedestrians here. Thanks for giving the opportunity for feedback! Iâ€™ve thought this for years.
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Segment 11	This segment is fine if you are on the all purpose trail, but if you are cycling on the road it can be pretty treacherous. Traffic seems to always move very quickly through here and the road seems more narrow then after Hogsback. Also motor vehicles generally are moving faster through here especially when they are coming into the park and have added speed heading down the hill from Detroit. I have been squeezed off the road into the berm many times by cars passing on the curves. There is little space on either side of the road, so there is really no place for bike to go when they are pushed off the road.
Segment 11	I run in the valley every day and know every section of it. The only really dangerous section is the area right outside the dog park. There is no barrier between the path and the road and the path is extremely narrow. On top of that, itâ€™s on a curve, so can be quite dangerous. There needs to be some protection for pedestrians here. Thanks for giving the opportunity for feedback! Iâ€™ve thought this for years.
Segment 11	Generally this area is very pleasant for walking, but the crosswalk by Memorial Park is annoying. Traffic is always going too fast and if you're with someone who is less agile getting across can be difficult. You gotta be fast to beat the traffic.
Segment 11	Add water fountains
Segment 11	I mostly use the trail through this section and only am on the road maybe once a year. The crosswalk by the river (between Rockcliff and Memorial Field) is nerve-racking. Cars fly around the blind corner while heading north and Iâ€™ve almost been hit here several times. It would be great to see blinking lights here to alert motorists to the pedestrian crossing and potentially speed humps as you approach to make the park safer for those on the trail.
Segment 11	In the few short stretches where the trail is along the road, I have to be careful with the dog. Although, luckily, I've never had a problem in 20 years. It's just something to be aware of. Having more separate lanes for pedestrians and cars here and in area number 8 would be a positive outcome of this process.
Segment 11	Access to drinking water at the fields would be a wonderful addition! The multi-use paths are great almost all the time, but when the sidewalk runs directly adjacent to the road the speed of traffic can sometimes be off putting. Thanks for all you're doing!
Segment 11	Remember that faster cyclists will want to ride on the road while more recreational cyclists will want to share the pedestrian lane. I think both options work pretty well now, so make sure they stay accessible. Many cars go significantly above the speed limit along there, so slowing them down a little could help cycling on the road feel safer. It would be good to add pedestrian access to Hogsback lane, which would then require a crosswalk. As it is, pedestrians already use Hogsback, although it's not very safe so a crosswalk might be good no matter what.

Segment 11	Signage for slower traffic/people stay to the right. Itâ€™s frustrating when youâ€™re trying to pass and someone is blocking the path.
Segment 11	The road is very narrow here. Perhaps the next time the road is worked on/improved, add a couple feet to either side to make a dedicated bike lane. Some people are very unpleasant when passing me on the road, as there speed has been slowed. Very unpleasant. The multipurpose trail is ok for casual cycling, but too many dogs and children make it unsafe for everyone involved.
Segment 11	Widen road with a protected bike lane
Segment 11	Hogsback needs to have more police patrolling, cars travel at very high rates of speed compared to the posted speed limit of 20. It also needs better access with a path or lane for walking and biking. There needs to also be a crosswalk at the top and bottom.
Segment 11	Add a multipurpose trail to Hogsback!
Segment 11	Provide erosion control measures that incorporate a protected sidewalk and bike lane.
Segment 11	Make an Dedicated trail for Walkers and Runners.
Segment 11	I am specifically concerned with Hogsback itself. I walk on it nearly every day and a footpath is sorely needed. It seems there would be room on the side where construction debris is piled
Segment 11	Add signage at every crosswalk enforcing pedestrian right of way.
Segment 12	Please mark this street with bike sharing signs. The width of this street is ample for both automobiles and bicycles and having some markings would be helpful.
Segment 12	Hogsback and Stinchcomb does not have a paved path for pedestrians or bicycles, there is no way to safely cross the street on the blind corner. If you are walking to the valley from Lakewood there is only a side walk on one side of Riverside and that is on the side with a blind corner. Traffic tends to fly down Riverside. During the last few months while Hogsback has been closed to motorized vehicles it has been a joy to use it. Maybe if it can't be closed to traffic or widened to add a trail, it could be 1 way so that a paved trail can be put in.
Segment 12	It would be nice to have a walk way with rail next to the river so you can see it - the beauty is remarkable and it is unfortunate that walkers don't get a chance to see it.
Segment 12	Although riverside is a well used route, North south and off the freeway, it is not especially safe for drivers walkers or bikers due to the many blind curves. Also when people are turning onto a side street off Riverside they often take the turn fast and cannot see too far beyond the turn radio is which puts pedestrians at risk. This is especially true at Franklin where the street continues to curve after the turn and parked cars block the drivers view. I think somehow slowing down traffic on Riverside would be great perhaps with several round about or using a speed bump on Franklin just before the intersection to discourage quick turning. Riversideâ€™s position on the valley make it a very interesting place to walk. So many pedestrians walk to view the spectacular unobstructed sunsets. It would be nice to have sitting benches and wider side walks with a biking area that is tow way on the east side of the street. The west side of Riverside is a dangerous place for bike traffic because of the blind curves. Riverside would be such a great bike stree because of its justaposition to the valley and how it links three communities. Cleveland, rocky River and lakewood.
Segment 12	Hogs back nÃ©e a sidewalk or path for pedestrians
Segment 12	There is nothing good to say about this stretch of road except that the scenery is beautiful. I hate driving, walking, and cycling along Riverside. I walk through the intersection of Riverside and Detroit several times a week and it's never easy. The parking lot and curb cuts by Simone's are a nightmare, but the other side by the car wash isn't much easier. Simone's often has delivery trucks parking on the sidewalk. In winter this can be especially dangerous as you're trying to not kill yourself on the ice and maneuver around the idling trucks at the same time. Traffic at this intersection is dangerous during the day and even more so in the evening. I was recently grazed by a turning car while crossing with the light in the crosswalk.
Segment 12	Hogsback is a very common way for many walkers, runners and bikers to access and leave the park. Cars often drive too quickly there and there's very little room for us. It was so nice when that piece of road was closed to traffic! At the top of the hill it's also,i a bit dangerous to cross Riverside at the curve.
Segment 12	Riverside is generally a comfortable experience. It would be nice to see the crosswalks at W. Clifton and Madison become safer, some method of alerting distracted drivers to pedestrians trying to cross. Hogs back does not feel safe as a cyclist or pedestrian. I thoroughly enjoyed when Hogsback was barricaded off during March, April, and May and open only to cyclists and foot traffic. It made the park feel a lot safer, plus the intersection at the bottom of the hill at Valley Parkway seemed less dangerous for drivers too.

Segment 12	Hogsback is a very common way for many walkers, runners and bikers to access and leave the park. Cars often drive too quickly there and there's very little room for us. It was so nice when that piece of road was closed to traffic! At the top of the hill it's also,i a bit dangerous to cross Riverside at the curve.
Segment 12	Closing the top of Hogsback to stinchcomb. Only allowing access to stinchcomb from the parkway. This would reduce and slow traffic, allowing for a safer walking/biking experience as the most unsafe part of Hogsback is when the cars gain speed going down the hill.
Segment 12	Sidewalks are feasible, but my concern in specifically Hogsback which is in desperate need of a walking/biking lane. It is completely unsafe. Nowhere to safely access the park. Cars rarely move over or slow down. Itâ€™s quite frightening
Segment 12	Closing the top of Hogsback to stinchcomb. Only allowing access to stinchcomb from the parkway. This would reduce and slow traffic, allowing for a safer walking/biking experience as the most unsafe part of Hogsback is when the cars gain speed going down the hill.
Segment 12	Add pedestrian path and bike lane to hogsback lane and make the intersection at the top safe. Need a way to cross Riverside at Graber. I live on Fries, and would like to use Graber as a shortcut to the Detroit bridge to cross the valley. With that and a couple other improvements I would likely start walking/biking to get groceries at Heinen's instead of driving. The intersection with Detroit is terrible, and using Graber would be a nice way to shorten the path and avoid that mess.
Segment 12	Add sidewalk/path for pedestrians/cyclists on Hogsback. Itâ€™s not safe to pass anyone near the top of Hogsback because of the curves and grade of the hill. Too many blind spots on both roads
Segment 12	I would love to see a crosswalk or pedestrian flashing light cross walk at the Riverside/Hogsback intersection, I often feel unsafe crossing Riverside to get to Hogsback and vice versa. I also LOVED when Hogsback was closed to traffic, I would love to see this be a permanent change. This would solve safety issues and would allow for more room to remedy the erosion occurring along the roadway. If this is not possible, then at the very least I would love to see a safe pathway added along Hogsback. The steep hill is often a source of speeding traffic in very close proximity to us pedestrians.
Segment 12	There is no safe crossing at the Hogsback entrance. This is a blind corner with lots of traffic and NO CROSSING.
Segment 12	Lakewood has done a good job with Riverside Drive. There is room for cyclists on both sides of the street, although the east side has much more room. I feel very save cycling Riverside.
Segment 12	A crosswalk is needed at Hogsback for pedestrians. There is a blind curve in that location and drivers can be fast on Riverside. Slower walkers are definitely at risk here. Generally I find Riverside to be pleasant for cycling but avoid descending into the park at Hogsback due to the absence of a trail or bike lane and the steepness of the hill. It is also very difficult to negotiate as a pedestrian.
Segment 12	Lights need to be longer. If you having issues with your knees thereâ€™s not enough time to cross safely
Segment 12	A bike lane would be helpful.
Segment 2	Biking up the hill returning to traffic away from Rocky River Park is always congested. Car speed is high. Visibility into the intersection is not great. Sidewalks are too narrow at the intersection and bikes need a dedicated lane. Starting and stopping g on the hill is difficult so most bikes go to sidewalk and it's far too narrow to accommodate safe passing of pedestrians.
Segment 2	The amount of traffic that moves through the intersection of Detroit and Wooster can make for challenging crossings when you are trying to cross both streets.
Segment 2	I think this area is well served to pedestrians. I understand the point made about bicyclists, but many in the area use the sidewalks as well. Giving them a bike lane may ease the use of sidewalks by cyclists.
Segment 2	Sharrows and signage
Segment 2	There are a lot of blind spots for both cars and bicyclists around the underpass so turning left from the Depot Road in a car is nerve racking. When riding a bike, I am nervous that cars wonâ€™t see me as I come out from under the overpass in either direction. Closer to Frazier, traffic can also get congested at the intersection of Lake and Beachcliff, the CYC Road and cars coming out from under the overpass.
Segment 3	Excessive noise from motorcycles and speeding is a problem
Segment 3	This street could easily be striped with a bike lane without any major adjustments needed to accommodate parking and traffic. Sloan Ave is very wide and is the best access into the park as simply crossing Detroit with the light is much easier than having to turn left into the park if you are coming from the East.
Segment 3	Traffic needs to be slowed, especially around the blind curves. And crosswalks would be helpful at both ends. I'm often walking end to end and need to cross, but don't want to walk all the way to the end to use the traffic light.

Segment 3	Biking up the hill toward the park can cause difficulty with drivers. Generally nice space is provided but not indicated or demarcated clearly on the road.intersection at Sloan and the park is in poor repair. Cross walk second indicator is too small. When biking up the hill you have to make a choice can I pedal hard and make the light or not. Cars coming up from the reservation routinely need to make a left and may be into the sun this presents the greatest danger to bikes hoping to enter the reservation.
Segment 3	The changes to the intersection over the last year or so at Detroit and Sloane have made the experience feel much safer. I feel this section of the neighborhood is quite user friendly
Segment 3	There needs to be some crosswalks to cross the sides of sloane other than at w Clifton and Detroit. Cars also speed around the curve at sloane subway. It would be nice if that was a proper intersection with stop signs or a light for people to cross safely and for cars to slow down. Also sloane subway should be on this survey. Itâ€™s a nice cut through to walk on lake road and Clifton but that is one of the scariest unsafe walking experiences with my dog.
Segment 3	This area has very bumpy roads and uneven sidewalks, both are unpleasant for any mode of transportation. Lakewood should take care of smoothing this out for all modes. There are not many tree lawn trees, so walking feels like a concrete experience. If feels like Lakewood does not invest in this street. The intersection of Sloane/Detroit/Vally Pkwt is a mess. The concrete road and crosswalks are ugly and look like itâ €™s badly falling apart. Itâ€™s a busy intersection and on all sides the car traffic tends to creep into the crosswalk, it should be illegal to turn right on red. I regularly hear cars honking, the traffic here is stressful for people and therefore all modes of transport suffer (cars honking, speeding past a left-turning car). A new bridge going over or tunnel under Detroit to separate cars from other modes would be ideal.
Segment 3	Crosswalks along Sloane, enforce the speed limit around here, more cars are going 35 than 25-30. Iâ€™d say the majority speed.
Segment 3	I walk this route 5-7 times a week. I often jaywalk across the road to get where I need to go, and see many others do the same. I think a crosswalk near the Dollar Tree and other stores/restaurants would be a good idea. I do not see a big need for a bike lane here as the road is pretty wide and traffic flows fairly well from West Clifton to Detroit.
Segment 3	Sloane offers a comfortable walking experience. While I always feel comfortable crossing the street because of the amount and speed of traffic, I'm very much in favor of adding crosswalks at the locations designated in your video - near the plaza including Dollar Tree and by the bus stop near the Detroit/Rocky River bridge intersection.
Segment 3	Crosswalks along Sloane, enforce the speed limit around here, more cars are going 35 than 25-30. Iâ€™d say the majority speed.
Segment 3	Maybe a designated crosswalk between West Clifton and Detroit
Segment 3	The street and intersection could improve with additional streetscape elements such as benches, trees, and public art. Please remove those "blades of grass" bike racks. No one knows they're bike racks and as a cyclist, I'd never lock my bike to something like that.
Segment 4	Wider sidewalks and maybe some separation from the traffic so the pedestrians and cars arenâ€™t so close
Segment 4	Widening the sidewalks on West Clifton, even by just a little bit would be beneficial as they are pretty narrow for a heavily traveled street. As a resident of West Clifton I am concerned quite a bit about the speed of the traffic as this road is a major cross through. As a bicyclist, I am appreciative of the new bike lane markings added last fall, but wish there was a share the road sign at both ends of West Clifton near Riverside, Detroit, and Clifton Blvd.
Segment 4	Wider sidewalks and maybe some separation from the traffic so the pedestrians and cars arenâ€™t so close
Segment 4	This is W. Clifton BOULEVARD not W. Clifton Road. W. Clifton Road is a residential street north of Clifton Boulevard off of Lake Road. Please relabel this so as not to confuse people.
Segment 4	My trips take me across West Clifton at Sloane. The speed of traffic and locations of crosswalks means I usually walk further down and take my chances crossing without a light because it's easier than dealing with the intersection.
Segment 4	The area of transition up the hill toward donatos can get tight with car traffic and like ng standing construction forces pedestrians into the street. Light at West Clifton and Detroit can be congested due to parking and heavy pedestrian traffic. I would widens sidewalks. This is critical: when connecting from West Clifton to River road - street parking blocks the view of drivers and bikers - speed of drivers on River makes.this dangerous.
Segment 4	This entire road is nice, except trying to cross west Clifton at the ends (Riverside & Clifton). People drive well above the speed limits on riverside and Clifton, and donâ€™t look for pedestrians. Iâ€™d love to see blinking lights (Especially at Riverside) at these crosswalks that the pedestrians could push to alert the drivers.
Segment 4	When will they be finishing the sidewalk on the east side of w Clifton near north wood? It basically forces everyone to walk either in the street or cross to the west side.

Segment 4	I am a huge proponent of adding bike lanes and adopting a great number of things to keep pedestrians and cyclists safe. But I do believe that the tough intersection at Clifton can be easily navigated if cyclists are obeying the traffic laws. I have walked and biked this route many times, as well as driven in a vehicle. And while the intersection may seem cumbersome (perhaps especially to those using it for the first time), I have never had any difficulties executing the proper turns or walking/biking through the intersection. I doubt many of the locals would support removing that second turn lane as traffic can back up in that area.
Segment 4	I think having bike lanes on roads as much as possible is a great pursuit, but I don't think it should be at the expense of the second right hand turn lane at the Clifton Blvd. intersection. Beautification around the railroad underpass and keeping the area free of litter would be nice.
Segment 4	The traffic lanes need to be striped turning right onto Clifton from W. Clifton, and turning left onto W. Clifton from Clifton, as well as the intersection when traveling east while crossing W. Clifton. There's no clear understanding of which lane a vehicle is supposed to stay in, making it impossible to feel safe on a bike.
Segment 5	I walk this road 1-2 times a week, and while it can be somewhat frustrating that there is not a full sidewalk on both sides of the road, I do not see a reason to spend money constructing a new sidewalk. It currently functions fine for pedestrians. A crosswalk or pedestrian refuge island could be useful for those who live at the apartments/condos along Wooster.
Segment 5	I don't think a pedestrian island anywhere throughout this section would be helpful. Instead, I would add signage for pedestrians indicate the need to cross the street soon if desired/needed.
Segment 5	The sidewalk ends on the East side of the street, which makes walking or jogging a little awkward. I have never biked on Wooster because I don't feel that it is the safest route to take.
Segment 5	Add bike lane along length of Wooster. Boldly mark crosswalk at Wooster and Detroit to deter vehicle creep into crosswalk.
Segment 5	Wooster is very narrow and cycling north can be a bit harrowing. At this point, I am not sure if there is a solution.
Segment 5	The sidewalk is very close to the road and in some places there is no sidewalk on one side of the street.
Segment 5	A crosswalk is definitely needed where the sidewalk ends on the east side of Wooster.
Segment 5	Dedicated bike lanes, reduction or elimination of center turn lane
Segment 6	Often very loud with heavy traffic and busy intersections. Can make pedestrian experience unpleasant.
Segment 6	Separate bike lane from pedestrian. Make it more attractive and less noisy
Segment 6	This is one of the worst stretches in Lakewood to ride your bike on the street. With parking on both sides once you cross Riverside heading west on Detroit it can be very harrowing. Add in the RTA and this is a very dangerous stretch of road for cyclists. This is a stretch of road that I always avoid, generally I will turn right onto Riverside when heading west on Detroit and then access the park via Sloan Ave.
Segment 6	I walk from Detroit Extension to Heinen's a couple times a week. And I have a love/hate relationship with the bridge. The views are wonderful, but the traffic speed, sidewalk height, and sidewalk width makes it a very uncomfortable walk. Crossing the park entrance/Sloane intersection is much easier with the new "salt shakers", but crossing on the other side at Wooster and Detroit is still unpleasant. It's even difficult to just stand and wait for the light because there's not enough room and it's a blind corner for bikers who use the sidewalk.
Segment 6	Require bicyclists to ride on the street. It becomes very uncomfortable when they use the sidewalk. Put up small barrier between the road and the walkway. Sometimes feel a little off balance walking close to traffic while going by other pedestrians. Create more areas in the fence to allow for taking pictures of the nice view. It isnâ€™t easy to take pictures thru the current fence.
Segment 6	There is almost always heavy traffic through this area, but the sidewalks are adequate for pedestrians. I think some adjustments to the crosswalk operations and flows could make this section feel safer even this the amount of traffic.
Segment 6	The sidewalk is too close to the sharp curve and I feel like cars zoom past there. With a small dog, Iâ€™m always nervous a car will drive up on the side walk and not see him with me and when thereâ€™s other people walking on that sidewalk near around the corner, standing outside the bars to smoke, etc itâ€™s really tight. Also, I havenâ€™t put this in other sections but I do feel there should be more trash bins throughout this walking area in your survey in general. Thereâ€™s a ton of trash especially in this section but throughout the surveyed area, so many dogs are walked. I pick up after my dogs but not everyone does. And it would be helpful to have more places to throw out the poop bags along the path.

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Segment 6	There should be a bike lane on the entirety of Detroit Ave, all the way to downtown Cleveland. I would once again point out that the intersection highlighted (the one by Harry Buffalo) would not be difficult for cyclists if all traffic laws are being followed. The lights there make it a pretty safe intersection considering. I walk and drive that intersection daily and have never felt at risk. I also use the Detroit/Sloane intersection on a daily basis and do not see a need to overhaul it. The Detroit/Wooster intersection could be improved by adding a fourth crossing walk (currently only three). I do not say this with any disrespect, as I am thankful for the thought and work being done to improve this area, but it is not very helpful for the narrator to label things as "uncomfortable" for pedestrians over and over again. I utilize many of the sidewalks in this study daily if not multiple times a day and have never felt uncomfortable or unsafe while on a sidewalk. Some sidewalks may not be attractive to the eye, but that is not their purpose or function. There are many improvements that could be made in the area, but I do not want to see money spent on areas that currently work just fine.
Segment 6	The crosswalk in front of Hairy Buffalo needs addressed. Drivers completing a right turn on Detroit are blind to folks crossing the street. There is a center median, which is not all that useful. Allowing for greater recognition of the crosswalk at this intersection would improve biker safety. The intersection of Detroit and Sloane is similarly a problem. Left turn signals and drivers speeding across the Detroit bridge to try and make the light are a problem. Similarly many take the right turn into the metroparks without having full view of walkers, runners, and bikers coming up the hill and looking to cross Sloane. Providing extra visibility and incentive to slow drivers down could be helpful.
Segment 6	Improving the pavement conditions around the bridge intersection. I feel comfortable on the bridge but would welcome and switch from the metal fencing that covers its sides. It seems like there's great potential to add a bike lane on the Rocky River side. Bring on the trees!
Segment 6	I live on Fries in Lakewood and would like to be able to walk or bike to get groceries at Heinen's in Rocky River. As it is, this segment of the trip makes that unpleasant. I'd like to use Graber as a shortcut to avoid some of this, but there isn't a crosswalk across Riverside for that. In general, walking from Lakewood to Rocky River or Valley Parkway starting south of here there are a lot of crosswalks often with fairly long waits. Adding a crosswalk across Detroit extension at Detroit would help with this a little since it would make both sides of Detroit viable. It would be especially useful since I would like to be on the south side of Detroit to go into the valley and when I arrive in Rocky River. Obviously, the bridge is not pleasant for walking or cycling.
Segment 6	I already answered once, but thought of something to add. It would be nice to have a map of each community for pedestrians after crossing the bridge. That way someone crossing could figure out how to get to the business they're looking for. The intersection of Detroit/Detroit extension is pretty confusing until you get to know it, so a map would be especially helpful there.
Segment 6	The "artwork" on the Lakewood side is ridiculous and the concrete bollards are ugly. The bridge could be improved by adding nice light poles and and improving the fencing. Adding some interesting architectural details or even plant life would make it so much better.
Segment 6	The street and intersection could improve with additional streetscape elements such as benches, trees, and public art. Please remove those "blades of grass" bike racks. No one knows they're bike racks and as a cyclist, I'd never lock my bike to something like that.

Segment 6	I will paste those comments below. However, having seen this presentation I believe the same thinking would dramatically improve bicycle and pedestrian experience across the bridge and into Rocky River. The intersection on the Rocky River side of the bridge is similarly problematic: It is too wide to be comfortable for bicycle / pedestrian use; it is wider than the traffic requires; the ill-defined nature of the lanes is dangerous for all, especially vulnerable users like cyclists; and it could be much more attractive. Te same strategies under consideration for the Sloane intersection and for Detroit for a block east of Valley Parkway could also be applied across the bridge and into Rocky River. Below are my earlier composed thoughts specifically about the Sloane/Valley Parkway/Detroit intersection. Regarding the Sloane Avenue / Valley Parkway intersection at Detroit Avenue: The opportunity to improve this intersection has potential for traffic safety, but also to create a landmark, to use infrastructure to call attention to the starting point of the entire Metroparks System as a major regional asset. Its potential to call attention to the neighborhood, for the synergy of business, residential, public park, and transportation assets cannot be overstated. As a member of Lakewoodâ€™s Public Art Task Force and a long-time bicycle commuter and sport rider, all those qualities of this intersection are important to me. The intersection is an ideal occasion for the City of Lakewood, Cleveland Metroparks, and Regional Transit Authority to work together. I routinely use this intersection on a bicycle, beginning in Lakewood, westbound on Detroit, and turning south on Valley Parkway. I take the lane and travel in the roadway as a vehicle. I generally support narrowing and traffic calming at this intersection, and the inclusion of significant bicycle accommodation, such as bike boxes (especially for left turns from Detroit Avenue westbound onto the Valley Parkway southbound, but also eastbound toward Sloane from Rocky River) and dedicated bicycle signals. I see those as base level improvements. However, if this intersection is seeing a re-design, it is a great opportunity to capitalize on all these factors in a bigger way: 1.Detroit is of course one of the busiest bicycle commuting thoroughfares on the West side. 2.The intersection marks the northern terminus of the Valley Parkway. The entire Metroparks system, one of the greatest assets in the region, begins and ends here. 3.The neighborhood is already home to a strong and stable collection of restaurants and other shops that could serve as a destination for recreational users of the parkway. 4.The beginning / end of the Valley Parkway is also just a few hundred feet from an RTA bus turnaround and stop, which creates a strong opportunity for multimodal transportation connections. Because of all that, in addition to any efforts directed purely at traffic safety, I would recommend a collaborative relationship between the City, the Metroparks, RTA, and the neighborhoodâ€™s businesses. A redesign of this intersection should include celebration of the start/finish of the Metroparks as a bicycle and recreational asset, and should highlight its connection to the neighborhood, to the RTA bus facility, and to restaurants and bars. 1.The intersection should be treated as the gateway that it isâ€"not only to Lakewood, but more importantly in and out of the park system. Public art should be a part of this. That could mean sculptural,
Segment 6	Repair the road in Detroit/Sloan intersection. The potholes and lack of clear lanes makes pedestrians unsafe.
Segment 6	Wider sidewalks, dedicated bike lanes, bump outs and reduction of car lanes
Segment 7	I walk down to the park loop a couple times a week. It's a very pleasant trip, but there are some things that could be changed to make it an easier walk. In some areas it's difficult to walk because the routes are used by both pedestrians and cars. At the entrance traffic and pedestrians are often snarled because no one knows where they're going or how to get there. At the boat launch area the walking path leads right into the launch area so walking can become a game of chicken with vehicles trying to launch. And it would be nice to have more seating along the river, since most of the time all the seating is taken up by people fishing.
Segment 7	This loop is lovely!
Segment 7	There are some stop signs on the multi-use path that have pedestrians and cyclists stop for vehicles. This is pretty ridiculous as it should be vehicles yielding the right-of-way to pedestrians, not the other way around. Especially given that there are more pedestrians/cyclists in this area than there are vehicles. It forces joggers/walkers/bikers to halt their exercise or leisure time in order to give way to any motorists - it's backwards thinking, and not very safe considering many pedestrians are not looking for signs like this. The south side entrance is used frequently by cyclists and pedestrians despite no walkway or path being there. That would be an improvement.
Segment 7	Needs to be a path on the south side of the park road to enter Rocky River Reservation at the base of the hill.
Segment 7	I think more signage at the start of entering the loop area to indicate the intended flow of vehicular traffic and bikes/pedestrians would be helpful. I'm in favor of a pedestrian/bike lane on the other side of the entrance.

Segment 7	Walking behind the fenced boat storage lot is fairly ugly. Paths are confusing. Clear marking for the loop all the way around would be nice to differentiate it from various spurs to fishing spots, food, etc. Having distance markers along the loop could also be nice. Maybe a few maps would help make it less confusing, but bad maps are worse than no maps.
Segment 8	As a cyclist, this access to the park can be a crap shoot. Currently the condition of the road is horrible, filled with potholes and cracks it is an unpleasant road to travel. There should also be a marked bike lane going up and down this hill. Use of the sidewalk trail as a cyclist is very difficult as there are generally too many pedestrians to feel safe using this. Visibility at the bottom of the hill for the entrance into the marina is also obscured as you are heading down the hill. At the Detroit intersection as the top of the hill, it would be helpful to include bike turn lanes and a bike traffic lights to ease accessing Detroit Ave. in all directions.
Segment 8	Walking up and down the hill is fine (but a ski lift would be appreciated), except for the speeding bikers who can really make things dangerous. The real problem is the area on the other side of the bridge. Crossing is a nightmare and walking isn't easy either. Those little floppy poles don't offer much security between walkers and traffic. Something way more substantial would be nice.
Segment 8	Cars are not always courteous to bikers and pedestrians on the trail when they are entering or exiting the marina parking area, and the blind curve at the crosswalk by the dog park can also be a challenge when the park is crowded. It would be nice to see both of those crossings become safer. Maybe a speed bump heading north on valley parkway as you approach the crosswalk?
Segment 8	The crossing at the end of the bridge near the dog park can be difficult on some days. At this, and every other crossing along these multi-use paths, there should be a sign in the center of the road telling cars to yield to pedestrians (an example of this would be similar to the one used on Lake Rd. near the shopping area on Old Detroit Rd. Cars rarely yield to any pedestrians or cyclists on this road.
Segment 8	Additional warnings for vehicles that they're approaching a crosswalk area near the dog park would be good. Most often seem aware but there definitely are times where groups of people get stuck unable to cross for awhile.
Segment 8	This section is pretty good.
Segment 8	Flashing crosswalk lights like the ones outside of the convention center in downtown Cleveland when someone presses the button to cross. Maybe even a stoplight at the boat launch intersection.
Segment 8	The bottom of the hill is a bit of a sticky wicket when cars, walkers and cyclists all seem to converge. Putting a stop sign on either side of the Parkway would stop traffic, but that seems a bit harsh. Otherwise, I have no real suggestions.
Segment 8	The street and intersection could improve with additional streetscape elements such as benches, trees, and public art. Please remove those "blades of grass" bike racks. No one knows they're bike racks and as a cyclist, I'd never lock my bike to something like that.

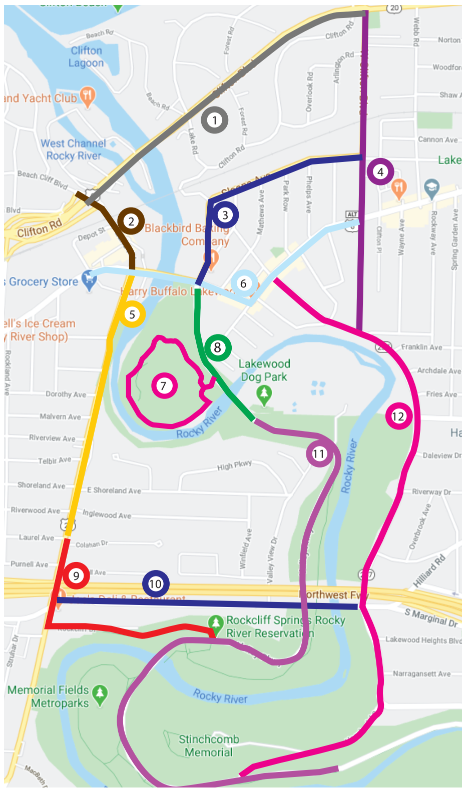
Segment 8	The location and configuration of the roadway, path, and facilities such as parking and the Lakewood Dog Park make this challenging, especially in light of the hill into the park and the winding roadway. Particularly hazardous are the lack of on-road bicycle accommodation, and also the number of times the all-purpose trail crosses driveways and Valley Parkway, and especially the locations of those crossings. The most problematic in my opinion is the trail crossing of the Valley Parkway South of the bridge, adjacent to the Dog Park driveway, and on the blind curve in Valley Parkway itself. Pedestrians crossing when cars come around the curve is a problem. Pedestrians crossing when cyclists are coming down the hill in the road is a problem. The stretch of all-purpose trail immediately adjacent to Valley Parkway is at least uncomfortable. In my opinion the All-Purpose trail should not cross Valley Parkway. It should instead proceed along the East / Northbnifound side of the Parkway up the hill to the intersection with Detroit, where it would connect with Lakewood's proposed extension. This would eliminate several crossings and make the roadway safer for all. Additionally the observation that the Detroit Road entrance marks the beginning of the entire metroparks system. This is currently an unceremonious place, not worthy of the grandeur and regional importance of that system. The Metroparks should begin here with a significant gateway, worthy of all that. The synergy of all the public entities should be maximized. The Metroparks, the County, the cities of Lakewood and Rocky River, and the GCRTA all are stakeholders. They should coordinate resources, grant applications, and think on a grand scale.
Segment 9	I donâ€™t typically cross Hilliard at this intersection or Wooster, so I canâ€™t speak to that section of this segment, but I have always felt comfortable on Rockcliff
Segment 9	This whole section is weird and made for cars. The entire cross walk at Wooster and Hilliard is goofy. Some reason you can cross on both sides North/South bound, but not both East/West bound. There are no sidewalks on the North side of Hilliard so I am not sure why there is even a cross walk taking a person there. You can only cross Wooster at that one spot at Rockcliffe, not at Hilliard where you would want to cross as a pedestrian. Once you cross at the cross walk to go into the metroparks you are put on the wrong side of the metroparks trail causing you to have to cross the street on your own.
Segment 9	Hilliard and Wooster intersection privileges vehicular traffic over pedestrian. Angles for turning cars create blind spots for pedestrians. Often time I have to yell or wave for drivers to recognize me in the crosswalk (traveling north/south on west side of street).
Segment 9	The sidewalk before the downhill section into the park is all chewed up and uneven. There are many trees and shrubs growing into the walkway. When I run this way we are constantly concerned with tripping due to holes and uneven pavement.
Segment 9	The portion that leads down the hill to the park is fine. The other half is loud and busy with traffic. Not sure there is much you can do about it, though, as it is a major intersection and close to the highway noise.
Segment 9	The design of Laurel Ave and the hill into the Metroparks is amazing and I enjoy my running hill routines at this location. If only turning the corner onto Wooster was as well designed and executed.
Segment 9	Make Rockcliff a no parking street
Segment 9	Widen sidewalks, dedicated bike lanes, and better signage

Contact	Date	Name	Email or Affiliation	Phone	Interest	Comment
phone	6/12/2020	Nancy Rowe		216.644.1694	Clifton Bridge, Sloane Subway	Initial message asked for call back - KBC phoned 6/15. Nancy lives on Sloane Subway; would love to see Sloane Subway closed to vehicles, narrowed, and turned into bike/ped trail with access from Clifton. Sees lots of dangerous driving / racing. CLIFTON bridge - emphasize very unsafe, high speed vehicles and highway design - drivers not watching for bikes or walkers. Walkways on bridge too narrow; can't accomodate a biker and a walker. She mentioned huge increase in walkers and bikers during COVID, especially families with young kids. Very supportive of study.
phone	6/13/2020	Jane Andrews		440.409.3626	Trail use	Only negative about hiking - when walking 2x2 people should go single file when they approach other walkers, same with bikers, and if bikers would announce passing when they pass
phone	6/13/2020	PJ? Keejah?		216.338.6642	Clifton Bridge	Lives in Clifton Park and ride across Clifton Bridge all the time. The sidewalk is much too narrow for biking pleasure and makes for a scary experience when people are going both ways on the bridge; a wider sidewalk would be quite nice
phone	6/13/2020	Tommy Kilbane		216.789.4452		Resident of Lakewood - message cut out after that
phone	6/14/2020	Rich Silva		216.252.5868	Hogsback	Walkability and Rideability; running and riding entering from Kamm's Corners 5x week for over 20 years; Hogsback Lane very dangerous and feel like taking your life in your hands. Strongly recommend closing from Stinchcomb up to Riverside Dr.; ideally also bike path up to Stinchcomb area. Glad we're looking for input and it really needs to be addressed
phone	6/15/2020	Maureen Pergola		216.308.1649		Asked for a call back. KBC left message 6/22/20 at 9 AM
phone	6/16/2020	Kathy Brida		440-895-1075		Appreciates opportunity to provide input. 1. Plan a bike route from Rocky River to Edgewater. 2. Lake Rd. and Detroit Rd overpass need work. Sidewalks in Rocky River limit access to Lake/Clifton bridge restricts access and for the most part is not available. From Lake Road, access to Beachcliff and Old River shopping and dining is not available. Consider building a trail in railroad easement where feasible and where safe. This would give you a direct route to those areas. 3. The shopping center parking areas, West Gate and Whole Foods in particular, have no pedestrian walkways for store areas. It's hazardous to attempt to cross parking lots. 4. Intersections, particularly Hilliard and Wager should be set to automatically be set to show walk symbol instead of having to press. At the intersections, particularly at Wager and Center Ridge, alert drivers south on Wager turning right on red to Ridge to pedestrians crossing Center Ridge and they have right of way. Can call for clarification or if we want addtional info. Thank you.
phone	6/18/2020	Christian James		330.495.5349		Calling from under bridge between Rocky River and Lakewood (believes he's on Cuyahoga River) - pretty nice down here, will come back during daytime. Can call him if needed.
phone	6/19/2020			216.577.1007		Would like to take part in the survey; will try web address
phone	6/20/2020	Dennis Byrne		440.331.1997		Walks daily from Stinchcomb to Marina; Baseball diamond erosion and dropoff - dangerous; under bridge across from workout area also erosion and drop, would like to see taken care of ASAP. Requesting additional portapotties under Hilliard bridge and at bottom of Stinchcomb. Also would like to see notices painted on trail warning about bikes, instructing bicylists to signal, and letting people know to watch for fast bikes and keep kids close by. He is thankful and says it's a great place, thank you for the opportunity to comment.
phone	6/20/2020	Elaine Breiner		216.280.9785		Bike or walk or run through park 5 days a week; use from Detroit entrance south to Cedar Point Hill and golfs several times a week. She lives above Hogsback and she loved when we closed Hogsback to cars. Metroparks should consider closing entrances to cars at least on weekends to make it more bike and pedestrian friendly. She realizes the park has to accomodate cars, but the do not have to cater to cars. That's not what the park is for. The park is primarily for non-car users.
phone	6/25/2020	Bernard Kosak		440-235-6272		My comments are about - I think bikes along the all purpose trail, there should be signs that say 10 mph speed limit. Also I think it should be posted - they used to have some on the ground - they should have a post that says it's mandatory for bikes on the all purpose trail to give notice when passing, not just be courteouse. If someone's walking, a small child or a dog, and they happen to see something and move in the direction, it's very dangerous and someone's going to get hurt and I'd be surprised if that hasn't already happen. Also, I don't see why it's legal for joggers or walkers to walk along the road when there's an all purpose trail there, it's just another accident waiting to happen and I'm surprised the park hasn't addressed that already. Ok, you don't need to call me back but those are my thoughts. Thank you.
phone	6/25/2020	Lee Anne		716.504.7552		Feedback on walking and biking experiences in Cleveland and Lakewood and Rocky River. Mostly I run in the park on the trail. Lately, it's been a little bit busy for my liking, so I've been spending most time at Stinchcomb-Groth and at Hogsback. I really appreciated when Hogsback was closed and it allowed people to really spread out on the road. It's a road that, if you're running or biking up or down can be tricky to navigate with other vehicles and it's a much more pleasant experience when there aren't vehicles out. I tend to not ride my bike on the trail in Rocky River Reservation because the trail's kind of narrow, and if there are pedestrians out, or families, or runners, it can be hard to go around them because the trail's so windy and know that any speed at all on your bike without runing into someone. My biggest complaint is the road in the Reservation, there's no bike lane, there are sharrows but it gets really, really tricky especially on weekend days when people are driving through the park either really fast or really slow and trying to go around bikes, there are so many turns that it can be hard to have a pleasant bike ride when there's other traffic happening. So I think less vehicles, make it a better experience for walkers, runners, bikers, families, etcetera, and there are enough entrance points so I think that driving through the entire reservation shouldn't be really necessary, so I hope that's something that's possible, You can call me back; thanks so much for all you're doing. Bye.
phone	6/25/2020	Patrick Conley		216.219.3422		I live in the city of Cleveland and I saw the Community Confluence signs in Rocky River Reservation. The thing I want to give feedback about is I liked when Hogsback was closed during the COVID pandemic, and I also liked the times further down in Rocky River the road was closed in the Reservation and it was so nice to bike, I saw a lot of younger kids and stuff out riding. So those are the two things I really like, less cars in the reservation and no cars on Hogsback. If you want to give me a call, you can. Have a nice day. Bye.

phone	6/26/2020	Maureen Smith					Good Morning. I walk in the Metroparks almost every day, coming down from Rock Cliff. I come down the hill on foot and walk the path, bicycle a couple days a week on the road or the path. I love it down here, you folks do a good job, but it is really crowded with bikes and walkers and runners all on the all-purpose path. My recommendation would be to make the roadway one way. One direction from Lakewood maybe to Mastick or at least up that way, since this is the area that's most congested. If you had cars going one way in one lane, bikes going both ways in another lane, then with walking, running, babies in strollers, children on bicycles, would be much safer on the path without bicyclists on the path too, and the bicyclists would be safe. The other recommendation would be to not allow trailers with boats to go through this area because they're much too wide and long to deal with bikes in the same road (unless a one way road) That's my recommendation, love it down hear, but we could use more space between the people on foot and the bikes and the cars. Thank you very much, appreciate you doing the study.
phone	6/30/2020	Anne Rich					I live at the top of Rock Cliff, so I love coming down into the park. My only concern is bikers passing walkers, a lot of them, most of them, do not acknowledge that they're passing you, so if you could implement some training or some signage so that bikers know what to do as they're passing walkers, that would be much appreciated. I know when I'm biking I'm always calling out ahead 'on your left, on your left' - she mentioned she's walking up Rock Cliff Hill during the cal - But I love the Metroparks, that's my only concern, bikers passing pedestrians, so thank you very much. Bye.
phone	6/30/2020	Jean Collins		216.225.9625			I hang out in the Metroparks all the time, even before the pandemic. I volunteer at Nature Center Gift Shop since I've retired, so it's part of my life. I love the Rock Cliff hill down to the Metroparks, I love any walking trail down to the Metroparks, and I'm VERY excited about the Mastick Road All Purpose Trail. I just think these trails open up the world to people. Without them, the city... I wouldn't be here. I wouldn't live in Cleveland without the Metroparks, or in northeast Ohio. If you have any specific questions for me, I'm at 216-225-9625 I don't think you can improve on what you're doing in Lakewood and Rocky River, I think Fairview, Wooster, and Lorain, anywhere there's an access to the park, there should be an all purpose trail because I love to bike and I hate biking down those roads. Even though there's Story Road hill to walk down, the Wooster Road is very dangerous for people to walk or bike down; and so was Mastick - congratulations. Goodbye
email	7/1/2020	Robert LaPlante	3170 W 162nd St. Cleveland OH 44111 robert.e. laplante@gmail.com				Entering the wonderful Rocky River Metropark from the east side from Lakewood or Cleveland is a challenge for runners, bikers, or walkers that use Hogsback Lane. As you well know, Hogsback is rather steep, narrow in places with overhanging tree branches which limit visibility and is without a pedestrian paved trail. The recent closure of Hogsback to vehicle traffic was so pleasant and safe for all that used it during the COVID lockdown period. Now we are back to speeders veering around bikers and runners and crossing the solid yellow line. There can be walkers and bikers using the road at the same time on opposite sides of the road which makes it really challenging for motorists. Hogsback desperately needs a pedestrian trail on the north side of the road away from the steep cliff edge. A few years ago a new levy was passed for the Metroparks and I believe a pedestrian trail is long overdue for Hogsback. I understand the slope is unstable, and the road is slumping downslope and difficult to maintain, but the road is heavily used by all and an accident is waiting to happen. New trails were built recently on the west side of the Cuyahoga Valley under the new interstate bridge and yet Hogsback needs a safe solution. So what is the park waiting for? You have added new trails and have failed to address Hogsback. In addition another access from Kamms Corner is the Old Lorain Road around the backside of Fairview Hospital. That road is also quite dangerous for all who use it and should be improved. My phone app for the CLE Metropark indicates that there is a narrow strip of parkland that reaches Rocky River Drive north of Edgecliff. When is a trail down into the park bottomland going to be constructed to increase safe access for Clevelanders? (KBC responded via email 7.3.2020)
phone	7/2/2020	Kristen Smiley		440-666-4744			Walks in park daily; the path by Dog Park near Dog Park is extremely narrow, especially with proximity to traffic. It looks like there is space to widen the path, so wondering if for safety we could widen it. Everything else is wonderful! Phone number left in case we need to speak with her.
phoone	7/2/2020	Barbara Wilbur					Thanks for asking my opion; I've been walking in the parks; complaints: like to go along marina along the river since there are benches and a bathroom. No where else has any benches or bathrooms. My husband and I used to go all the time and I would go more often. That bathrooom is the city (??) but there's only one. I wear a mask, I keep my 6', but irritated with epople who won't go single file when approaching. She loves watching everything grow and how we plant more trees, how the geese are happy, and she loves the hill (and huffing and puffing up the hill). Those are my thoughts for today. Thank you, bye.

00 COMMUNITY WORKSHOP RESULTS

Overview



1 Clifton Blvd from W Clifton Rd to Lake Rd (0.8 mi.)

2 Lake Rd from Frazier Dr to Detroit Ave (0.3 mi.)

3 Sloane Ave from W Clifton Blvd to Detroit Ave (0.6 mi)

4 W Clifton Rd from Clifton Blvd to River-side Dr (0.7 mi)

5 Wooster Rd from Detroit Ave to Laurel Ave (0.7 mi)

6 Detroit Ave from Clifton Pl to W 192 St (0.7 mi)

7 Park Loop Trail (entire loop - 0.6 mi)

8 Valley Pkwy from Detroit Ave to Lakewood Dog Park (0.9 mi)

9 Rockcliff Entrance (Wooster Rd/Laurel Ave to Rockcliff Dr / beginning of trail) (0.3 mi)

10 Hilliard Blvd from Wooster Rd to River-side Dr (0.7 mi)

11 Valley Pkwy from Lakewood Dog Park to Hogsback Ln (2 mi)

12 Riverside Dr from Hogsback Ln to Detroit Ave (1.6 mi)

188

Total Responses

Results from Virtual Community Workshop #1

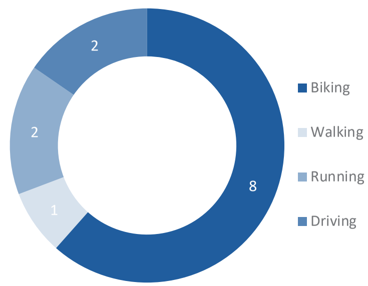
COMMUNITY CONFLUENCE
Virtual Community Workshop #1: May 29 - June 26

OHM Advancing Communities®

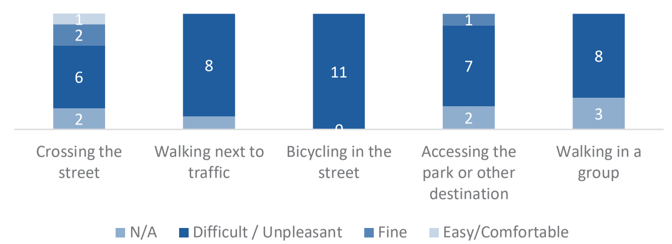
01 COMMUNITY WORKSHOP RESULTS

Segment I

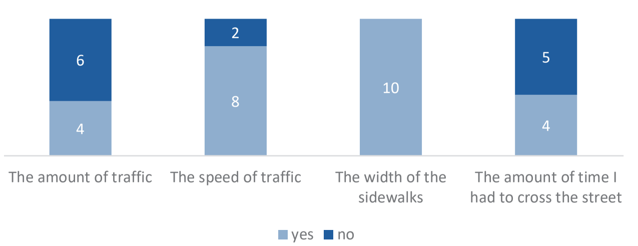
Q. *How do you typically travel on this street?*



Q. *How is your typical experience doing the following?*



Q. *Does any of the following make your experience feel UNSAFE?*



Q. *Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?*

Wider sidewalks and protected bike lanes

Bike lanes on north and south side of street

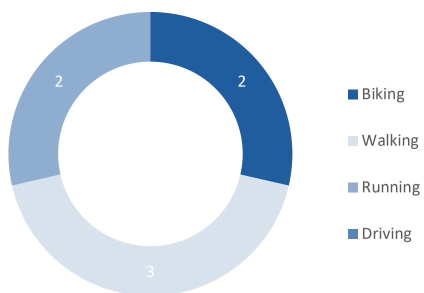
Traffic calming measures

COMMUNITY CONFLUENCE
Community Workshop Results

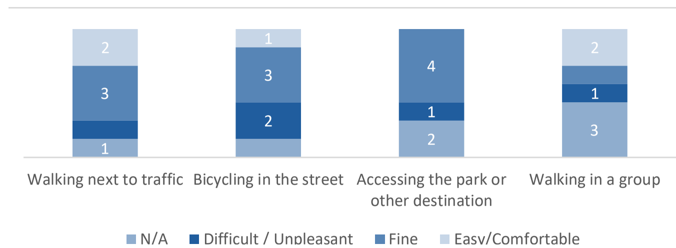
02 COMMUNITY WORKSHOP RESULTS

Segment 2

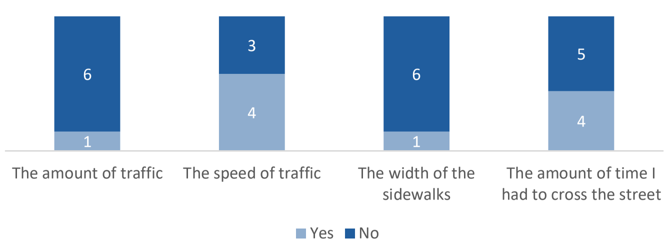
Q. How do you typically travel on this street?



Q. How is your typical experience doing the following?



Q. Does any of the following make your experience feel UNSAFE?



Q. Do you have any ideas or suggestions for how we could improve the pedestrian/ bicyclist experience on this street?

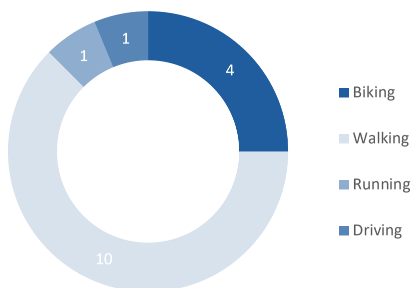
Sharrows and signage

There are a lot of blind spots for both cars and bicyclists around the underpass so turning left from the Depot Road in a car is nerve racking.

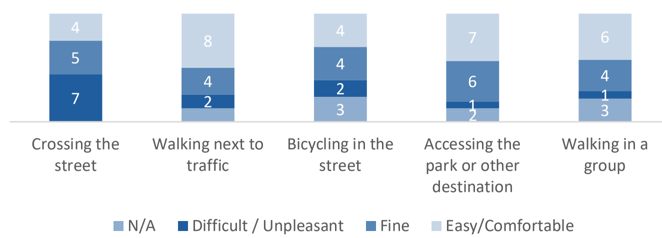
Biking up the hill returning to traffic away from Rocky River Park is always congested

03 COMMUNITY WORKSHOP RESULTS
Segment 3

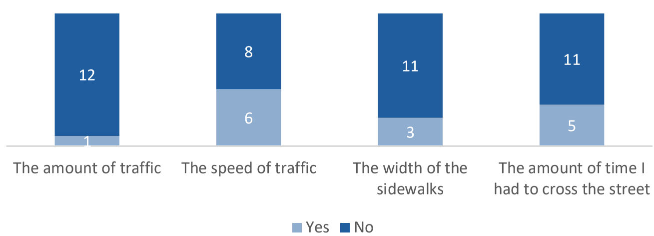
Q. *How do you typically travel on this street?*



Q. *How is your typical experience doing the following?*



Q. *Does any of the following make your experience feel UNSAFE?*



Q. *Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?*

Painted bike lane

Excessive noise from motorcycles and speeding is a problem

The street and intersection could improve with additional streetscape elements such as benches, trees, and public art

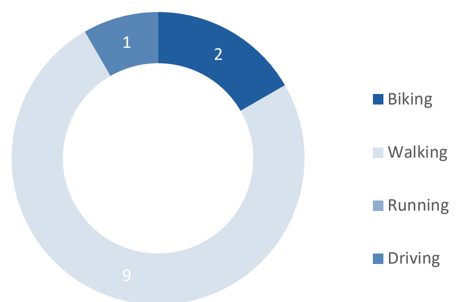
COMMUNITY CONFLUENCE
Community Workshop Results

OHM Advancing Communities®

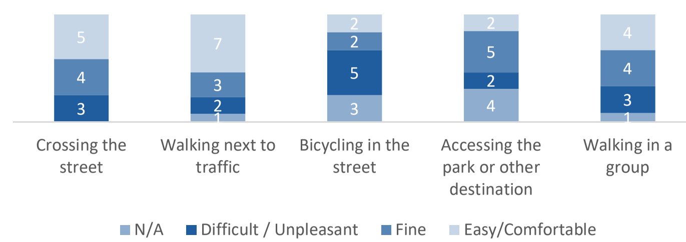
04 COMMUNITY WORKSHOP RESULTS

Segment 4

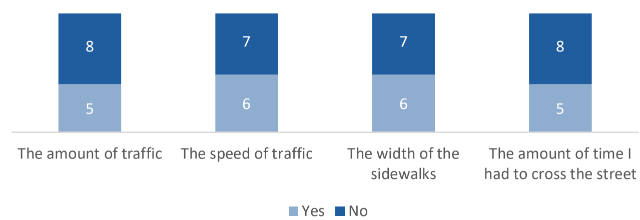
Q. How do you typically travel on this street?



Q. How is your typical experience doing the following?



Q. Does any of the following make your experience feel UNSAFE?



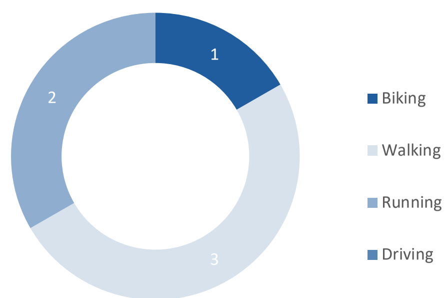
Q. Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?

Widening the sidewalks on West Clifton
Bike lanes
Traffic lanes striped

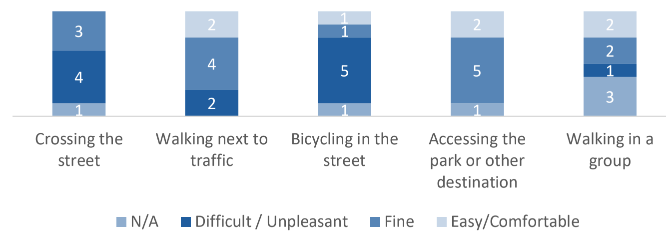
Wider sidewalks and maybe some separation from the traffic

05 COMMUNITY WORKSHOP RESULTS
Segment 5

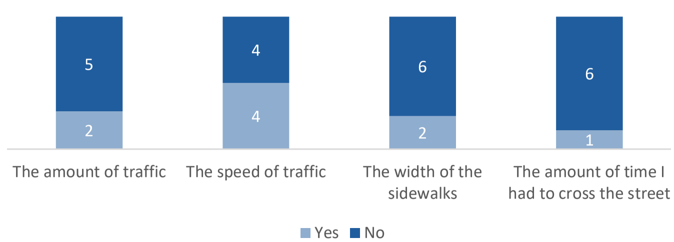
Q. *How do you typically travel on this street?*



Q. *How is your typical experience doing the following?*



Q. *Does any of the following make your experience feel UNSAFE?*



Q. *Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?*

Painted bike lane

Add bike lane along length of Wooster

Signage for pedestrians indicate the need to cross the street soon if desired/needed.

Wooster is very narrow and cycling north is dangerous

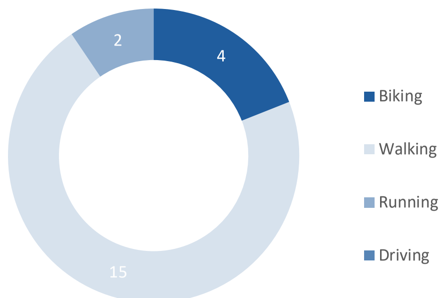
COMMUNITY CONFLUENCE
Community Workshop Results

OHM Advancing Communities®

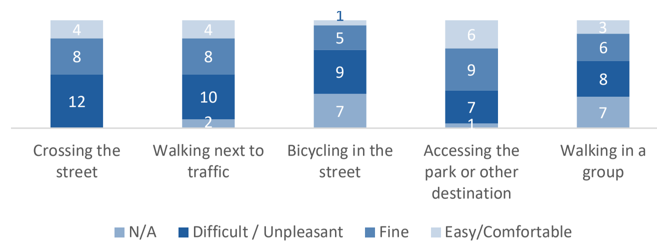
06 COMMUNITY WORKSHOP RESULTS

Segment 6

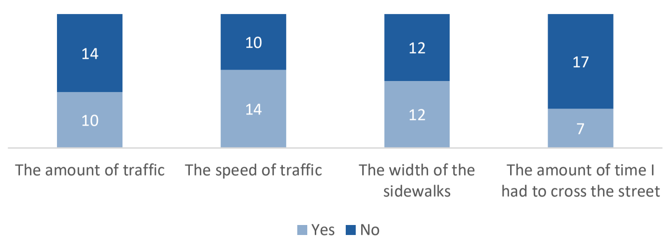
Q. How do you typically travel on this street?



Q. How is your typical experience doing the following?



Q. Does any of the following make your experience feel UNSAFE?



Q. Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?

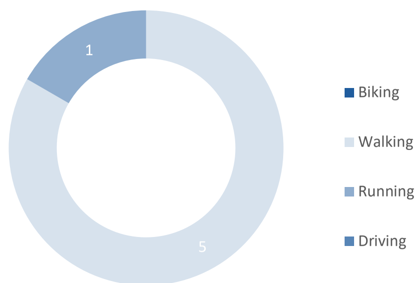
Often very loud with heavy traffic and busy intersections.

This is one of the worst stretches in Lakewood to ride your bike on the street

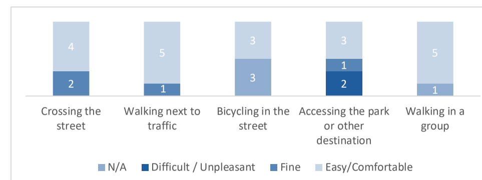
Wider sidewalks, dedicated bike lanes, bump outs and reduction of car lanes

07 COMMUNITY WORKSHOP RESULTS
Segment 7

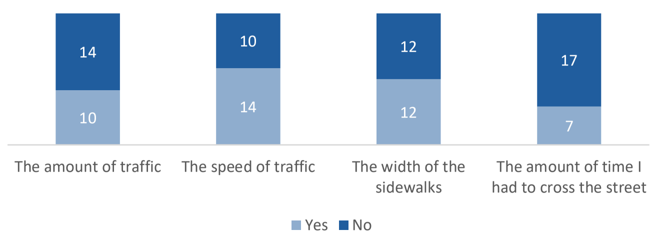
Q. *How do you typically travel on this street?*



Q. *How is your typical experience doing the following?*



Q. *Does any of the following make your experience feel UNSAFE?*



Q. *Do you have any ideas or suggestions for how we could improve the pedestrian/ bicyclist experience on this street?*

Needs to be a path on the south side of the park road to enter Rocky River Reservation at the base of the hill.

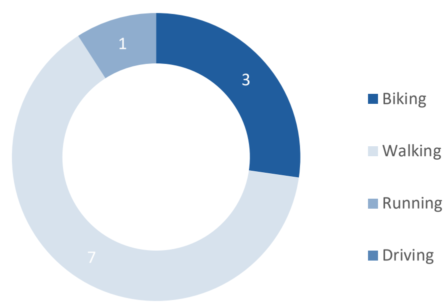
More signage at the start of entering the loop area to indicate the intended flow of vehicular traffic and bikes/ pedestrians would be helpful.

COMMUNITY CONFLUENCE
Community Workshop Results

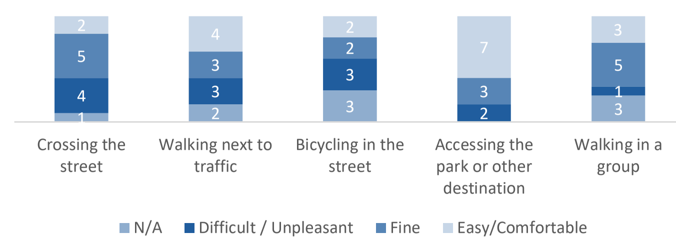
OHM Advancing Communities®

08 COMMUNITY WORKSHOP RESULTS
Segment 8

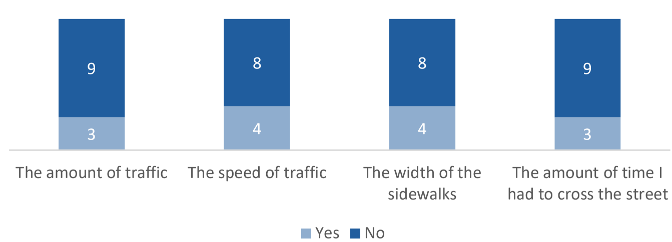
Q. *How do you typically travel on this street?*



Q. *How is your typical experience doing the following?*



Q. *Does any of the following make your experience feel UNSAFE?*



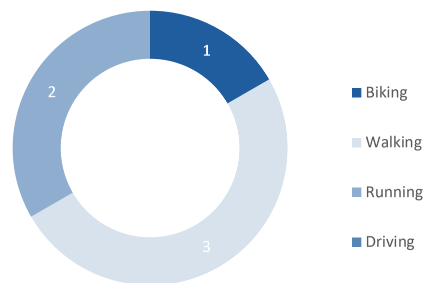
Q. *Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?*

> *the blind curve at the crosswalk by the dog park can also be a challenge when the park is crowded*
>
> *Flashing crosswalk lights like the ones outside of the convention center in downtown Cleveland when someone presses the button to cross. Maybe even a stoplight at the boat launch intersection.*

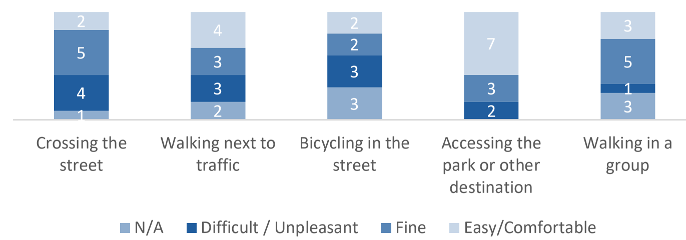
09 COMMUNITY WORKSHOP RESULTS

Segment 9

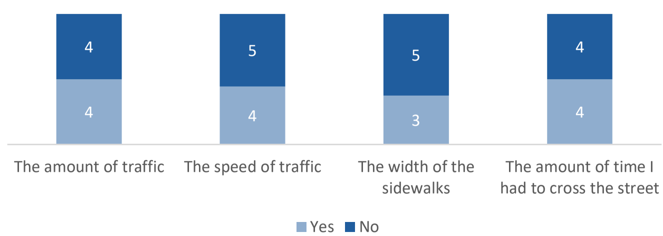
Q. *How do you typically travel on this street?*



Q. *How is your typical experience doing the following?*



Q. *Does any of the following make your experience feel UNSAFE?*



Q. *Do you have any ideas or suggestions for how we could improve the pedestrian/ bicyclist experience on this street?*

Hilliard and Wooster intersection privileges vehicular traffic over pedestrian.

Make Rockcliff a no parking street

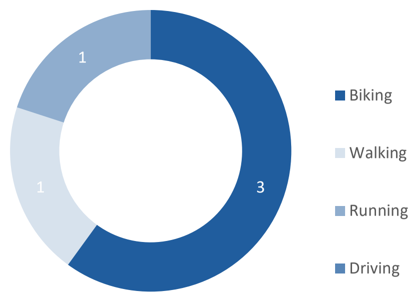
There are no sidewalks on the North side of Hilliard

COMMUNITY CONFLUENCE
Community Workshop Results

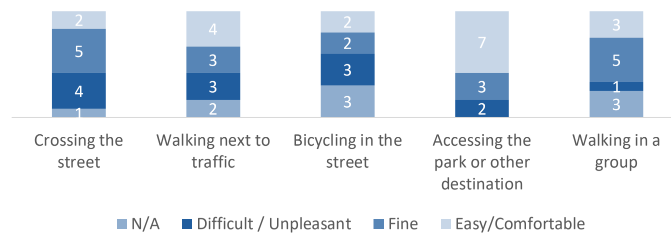
OHM Advancing Communities®

10 COMMUNITY WORKSHOP RESULTS
Segment 10

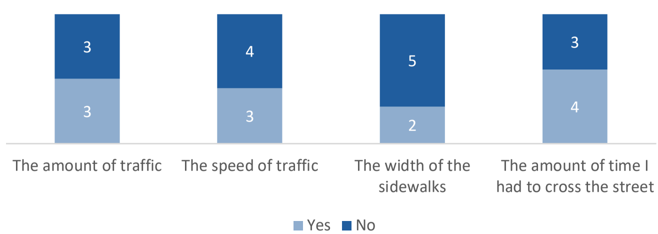
Q. *How do you typically travel on this street?*



Q. *How is your typical experience doing the following?*



Q. *Does any of the following make your experience feel UNSAFE?*



Q. *Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?*

Currently there is no real pedestrian access route to the Metroparks, from Lakewood, here.

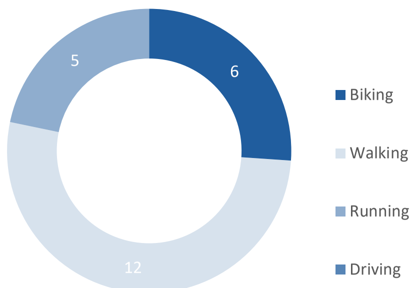
Visually unpleasant, high speed traffic with too narrow sidewalks

Sharrows

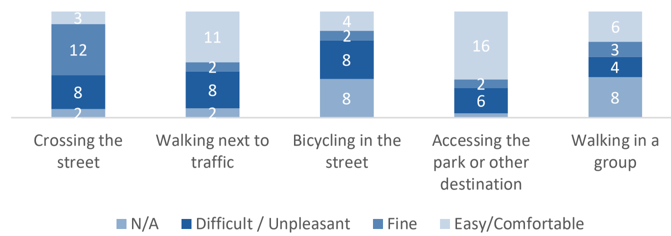
II COMMUNITY WORKSHOP RESULTS

Segment II

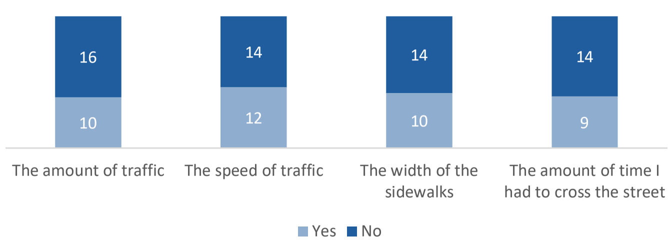
Q. *How do you typically travel on this street?*



Q. *How is your typical experience doing the following?*



Q. *Does any of the following make your experience feel UNSAFE?*



Q. *Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?*

Widen road with a protected bike lane

Make an dedicated trail for Walkers and Runners.

Add signage at every crosswalk enforcing pedestrian right of way.

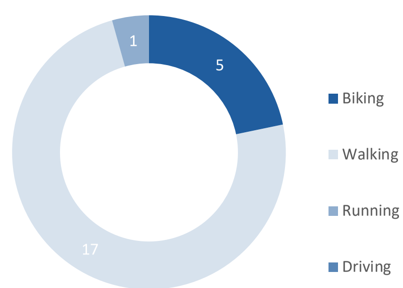
COMMUNITY CONFLUENCE
Community Workshop Results

OHM Advancing Communities

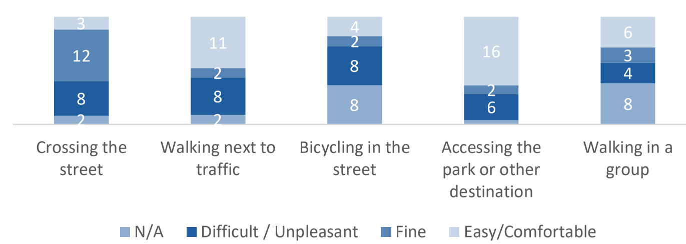
12 COMMUNITY WORKSHOP RESULTS

Segment 12

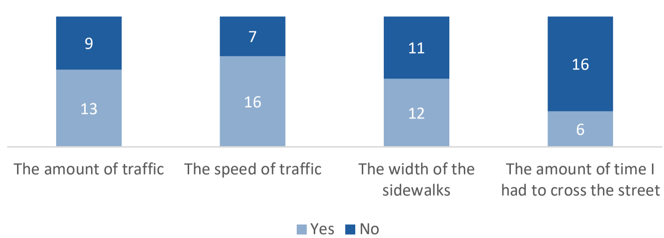
Q. *How do you typically travel on this street?*



Q. *How is your typical experience doing the following?*



Q. *Does any of the following make your experience feel UNSAFE?*

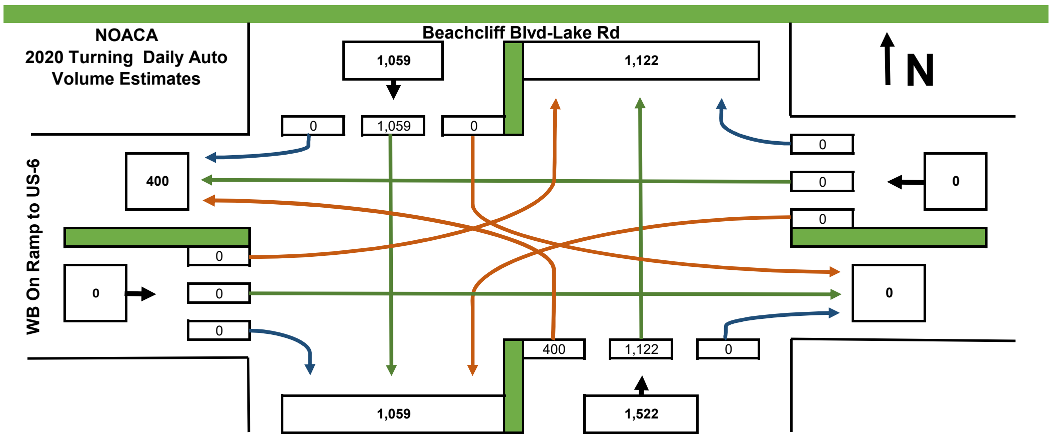


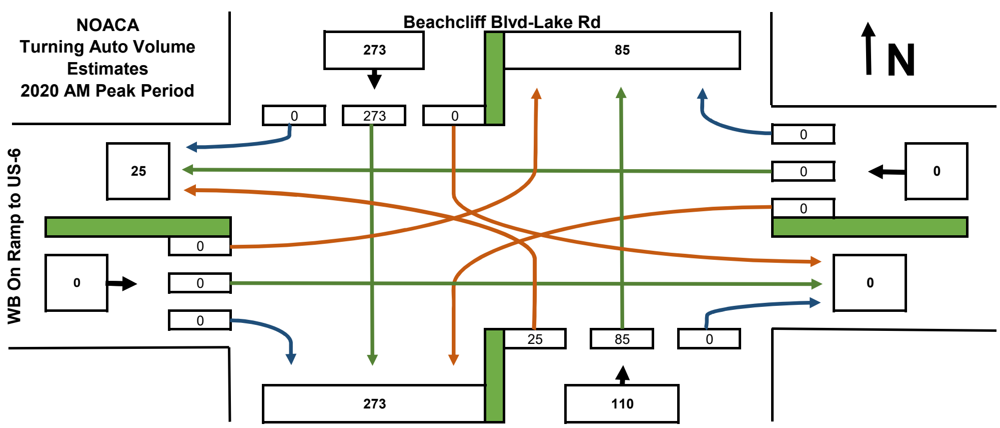
Q. *Do you have any ideas or suggestions for how we could improve the pedestrian/bicyclist experience on this street?*

> *The west side of Riverside is a dangerous place for bike traffic because of the blind curves*
>
> *Hogsback which is in desperate need of a walking/biking lane*
>
> *A crosswalk is needed at Hogsback for pedestrians.*

APPENDIX A: TRAFFIC COUNT INFORMATION

OHM Advisors®
6001 EUCLID AVENUE SUITE 130
CLEVELAND OHIO 44103 **T** 216.865.1335 **OHM**-Advisors.com


NOACA
2020 Turning Daily Auto
Volume Estimates
Beachcliff Blvd-Lake Rd
N
WB On Ramp to US-6
1,059
1,122
0
1,059
0
0
0
0
0
400
0
0
0
0
0
0
400
1,122
0
1,059
1,522


NOACA
Turning Auto Volume
Estimates
2020 AM Peak Period
Beachcliff Blvd-Lake Rd
N
WB On Ramp to US-6
273
85
0
273
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0
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25
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0
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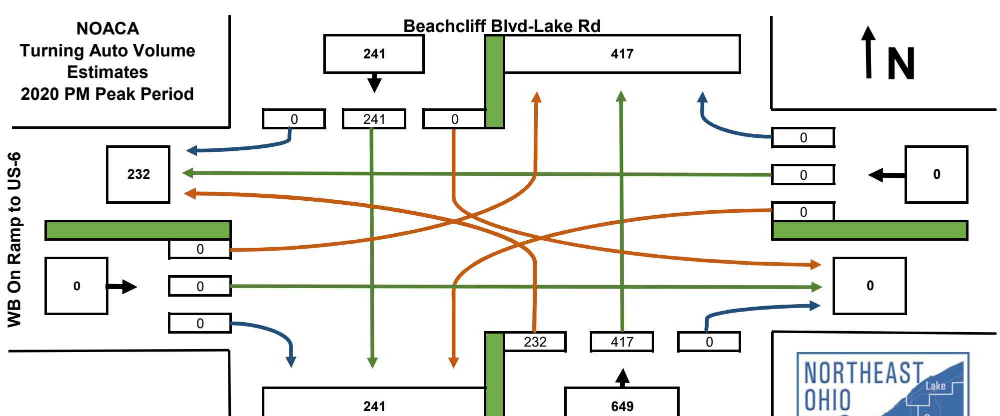
25
85
0
273
110


NOACA
Turning Auto Volume
Estimates
2020 PM Peak Period
Beachcliff Blvd-Lake Rd
N
WB On Ramp to US-6
241
417
0
241
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232
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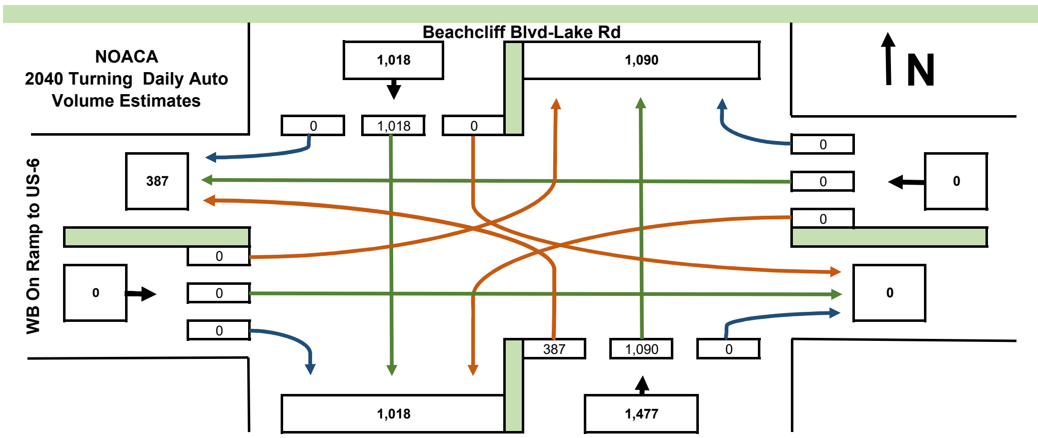
0
0
0
0
0
232
417
0
241
649


NOACA
2040 Turning Daily Auto Volume Estimates
Beachcliff Blvd-Lake Rd
N
WB On Ramp to US-6
1,018
1,090
0
1,018
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0
0
0
0
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0
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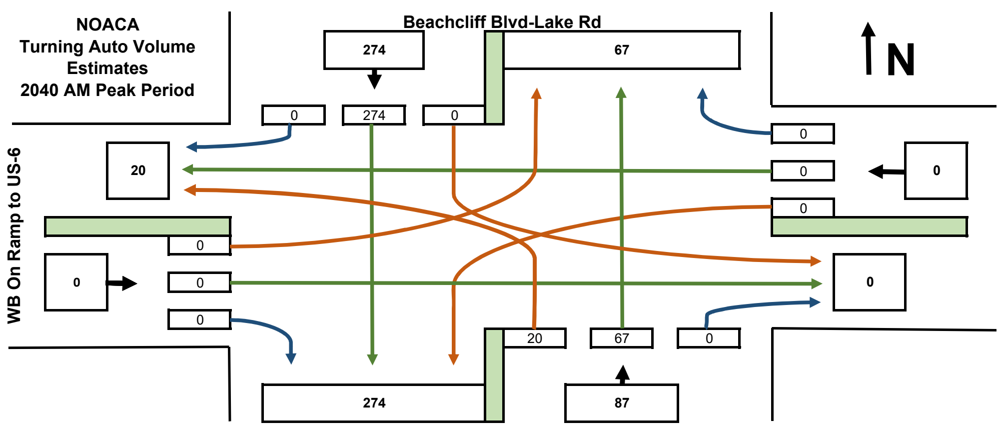
1,090
0
1,018
1,477


NOACA
Turning Auto Volume Estimates
2040 AM Peak Period
Beachcliff Blvd-Lake Rd
N
WB On Ramp to US-6
274
67
0
274
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0
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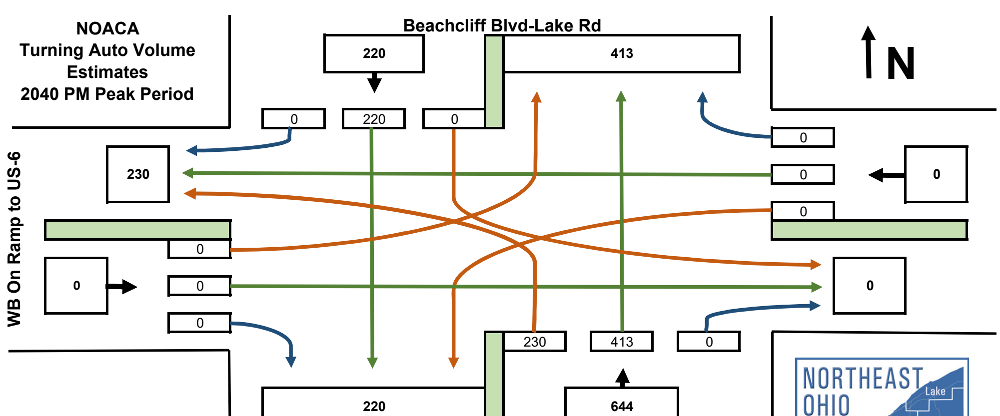
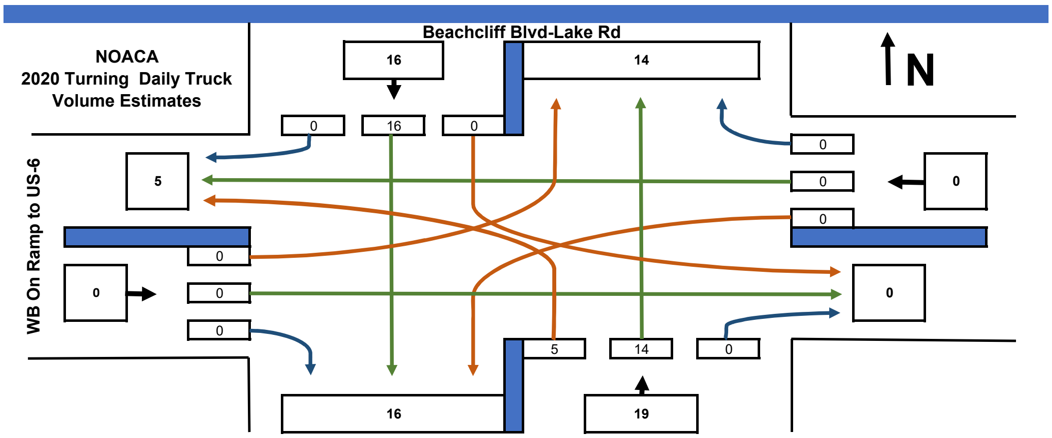
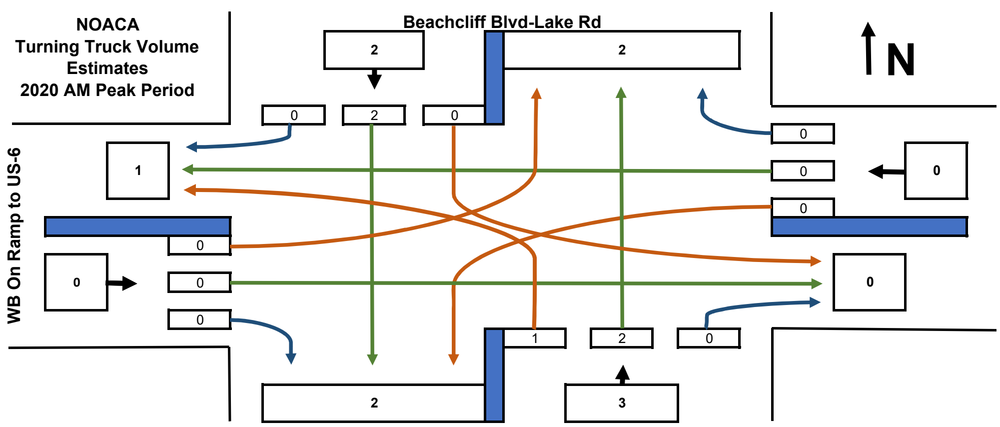
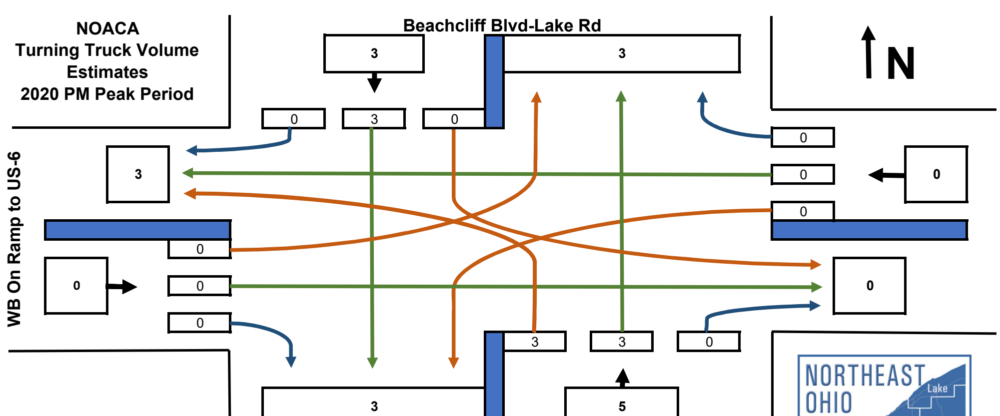
20
67
0
274
87


NOACA
Turning Auto Volume Estimates
2040 PM Peak Period
Beachcliff Blvd-Lake Rd
N
WB On Ramp to US-6
220
413
0
220
0
0
0
0
0
230
0
0
0
0
0
230
413
0
220
644







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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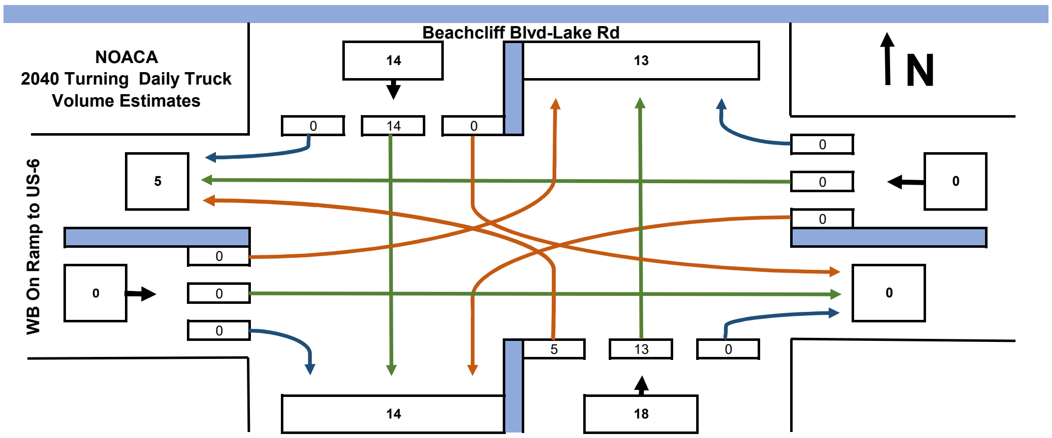
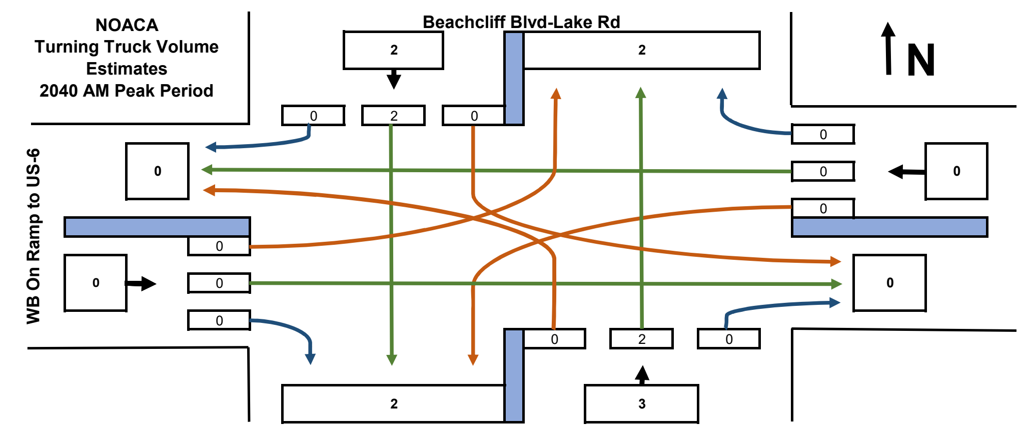

NOACA
2040 Turning Daily Truck
Volume Estimates
Beachcliff Blvd-Lake Rd
N
WB On Ramp to US-6
14
13
0
14
0
0
0
0
5
0
0
0
0
0
0
5
13
0
14
18


NOACA
Turning Truck Volume
Estimates
2040 AM Peak Period
Beachcliff Blvd-Lake Rd
N
WB On Ramp to US-6
2
2
0
2
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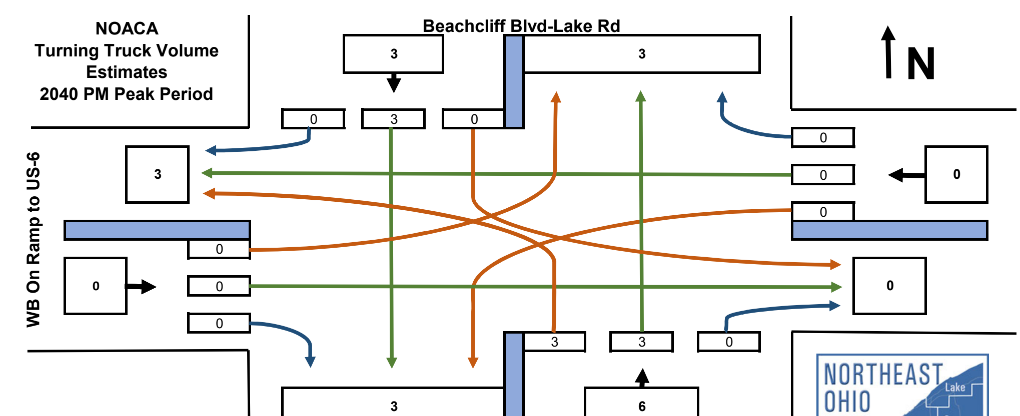
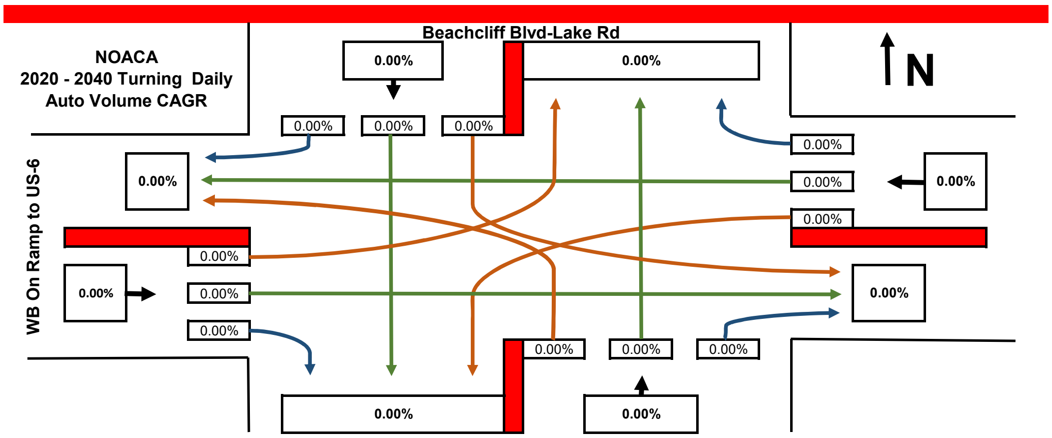
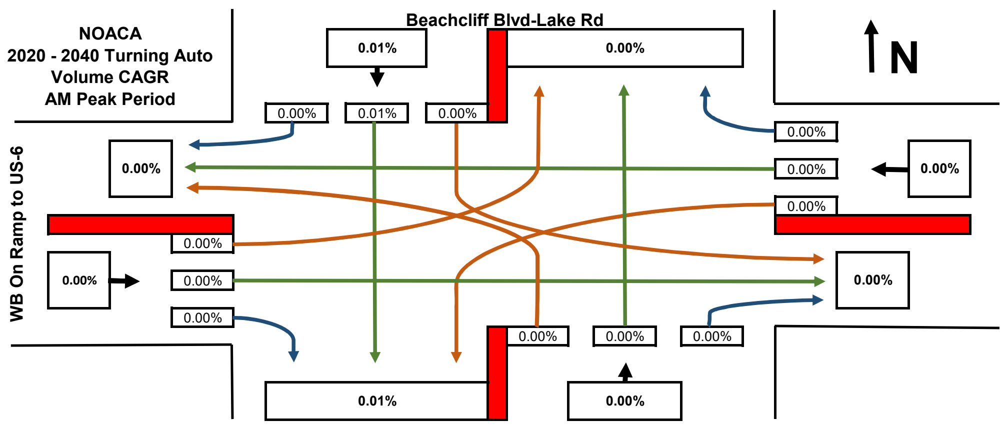
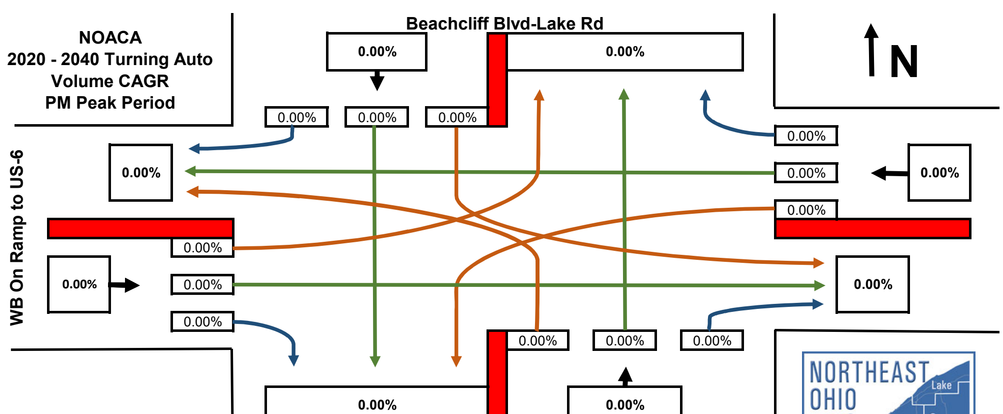
0
2
0
2
3


NOACA
Turning Truck Volume
Estimates
2040 PM Peak Period
Beachcliff Blvd-Lake Rd
N
WB On Ramp to US-6
3
3
0
3
0
0
0
0
3
0
0
0
0
0
0
3
3
0
3
6







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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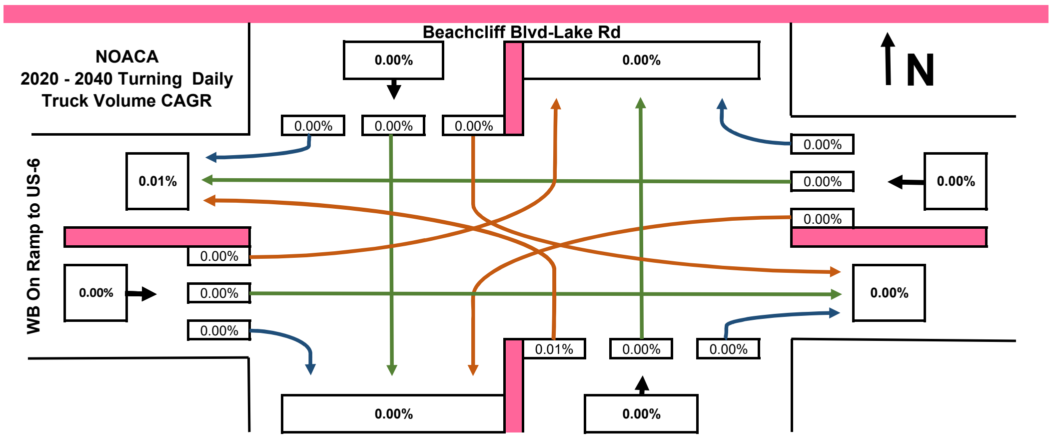
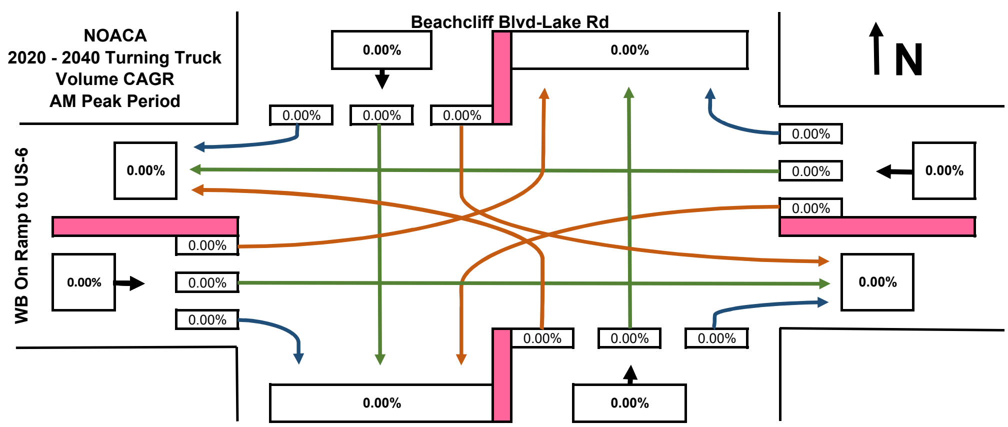
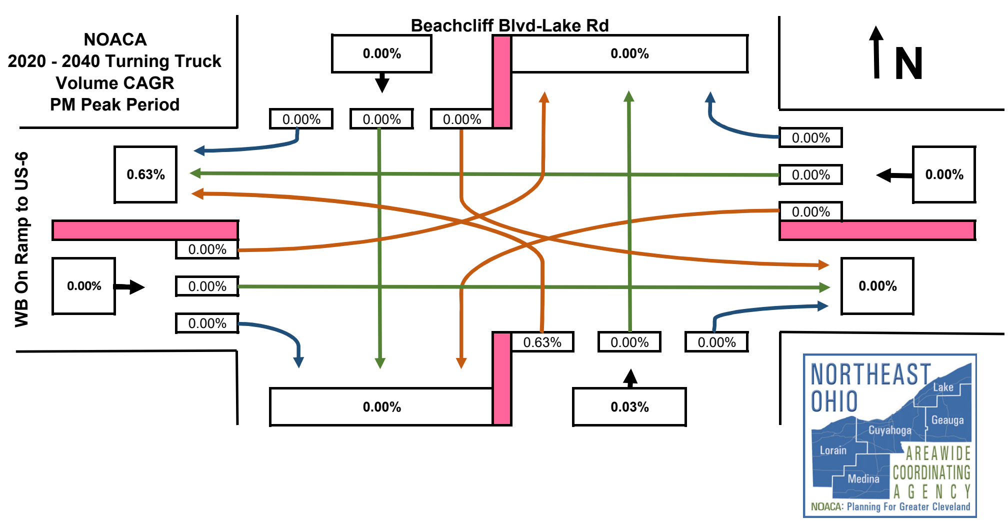

NOACA
2020 - 2040 Turning Daily
Truck Volume CAGR
Beachcliff Blvd-Lake Rd
WB On Ramp to US-6
N
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.01%
0.00%
0.00%
0.00%
0.00%
0.00%
0.01%
0.00%
0.00%
0.00%
0.00%


NOACA
2020 - 2040 Turning Truck
Volume CAGR
AM Peak Period
Beachcliff Blvd-Lake Rd
WB On Ramp to US-6
N
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%


NOACA
2020 - 2040 Turning Truck
Volume CAGR
PM Peak Period
Beachcliff Blvd-Lake Rd
WB On Ramp to US-6
N
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.63%
0.00%
0.00%
0.00%
0.00%
0.00%
0.63%
0.00%
0.00%
0.00%
0.03%
NORTHEAST OHIO
AREAWIDE COORDINATING AGENCY
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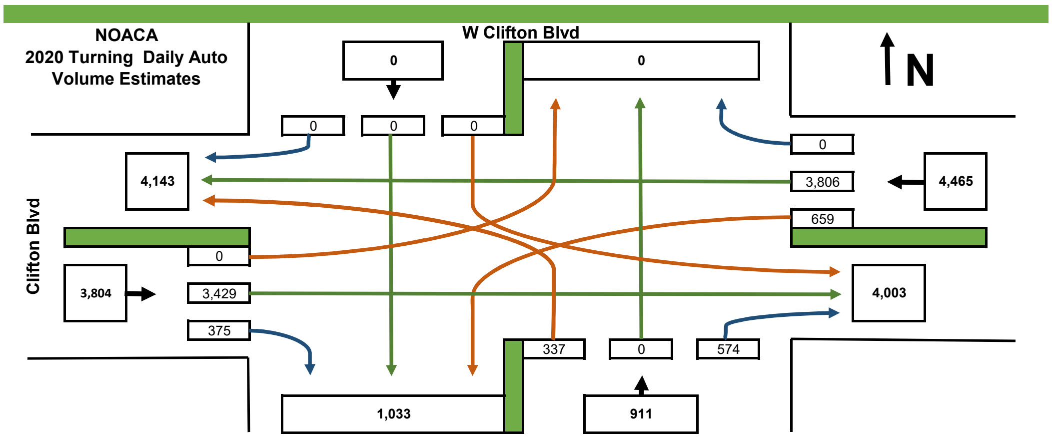

NOACA
2020 Turning Daily Auto
Volume Estimates
W Clifton Blvd
Clifton Blvd
N
0
0
0
0
0
0
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4,465
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4,003
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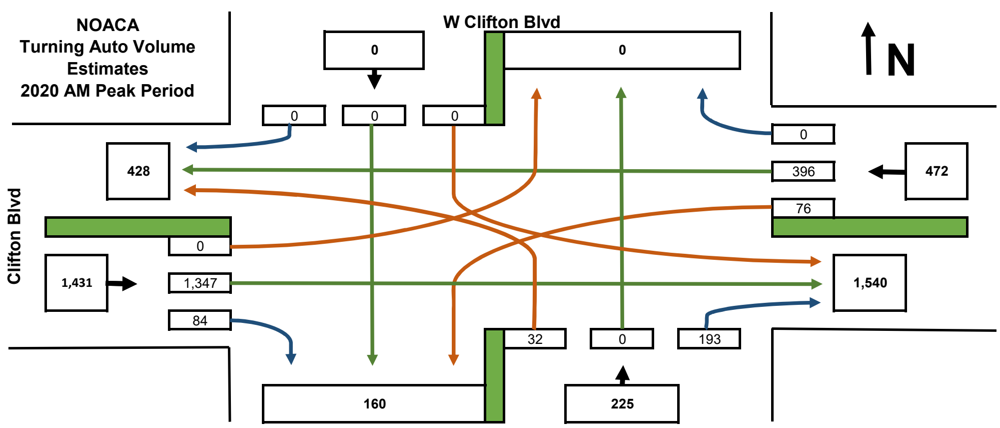
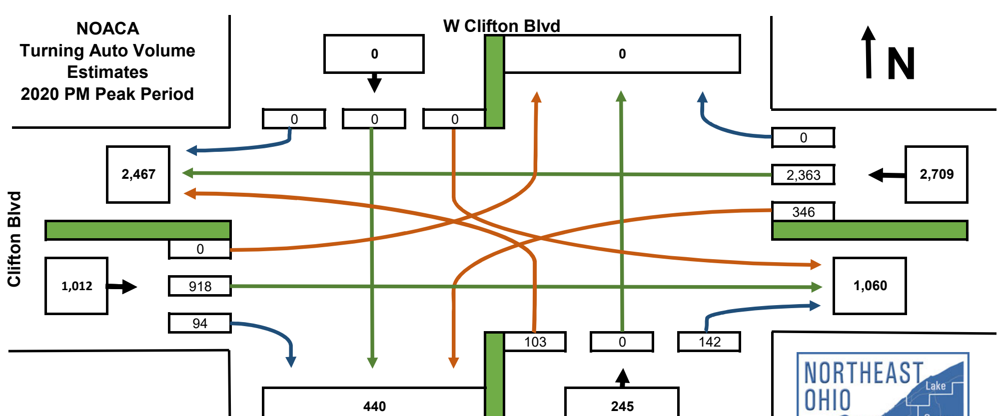
337
0
574
1,033
911



NOACA
Turning Auto Volume
Estimates
2020 AM Peak Period
W Clifton Blvd
Clifton Blvd
N
0
0
0
0
0
0
428
396
472
76
0
1,431
1,347
1,540
84
32
0
193
160
225



NOACA
Turning Auto Volume
Estimates
2020 PM Peak Period
W Clifton Blvd
Clifton Blvd
N
0
0
0
0
0
0
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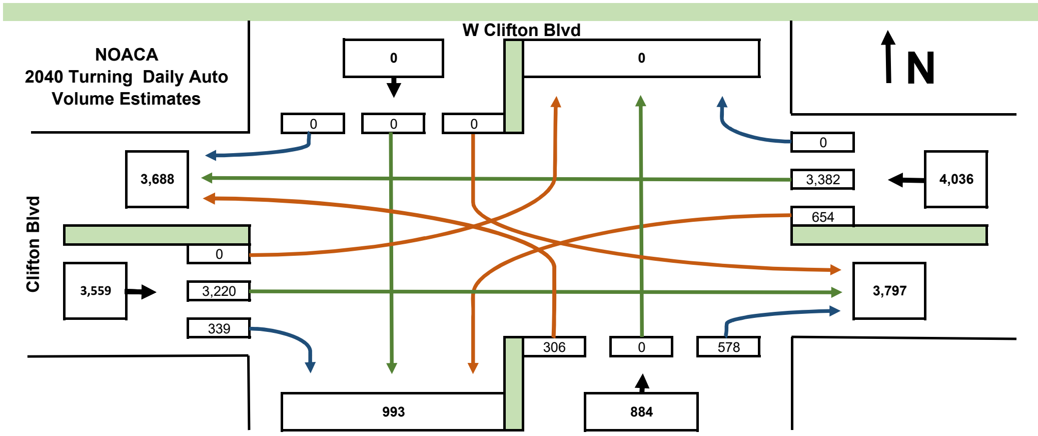
2,363
2,709
346
0
1,012
918
1,060
94
103
0
142
440
245


NOACA
2040 Turning Daily Auto Volume Estimates
W Clifton Blvd
Clifton Blvd
N
0
0
0
0
0
0
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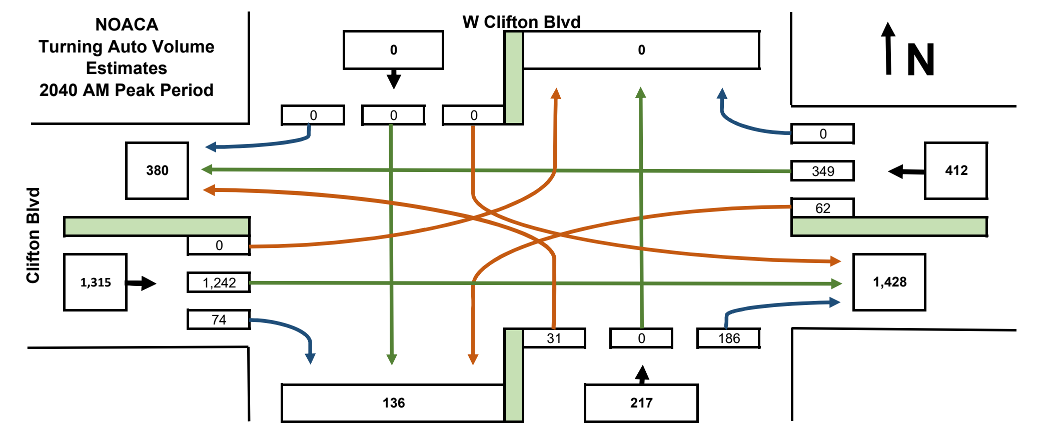
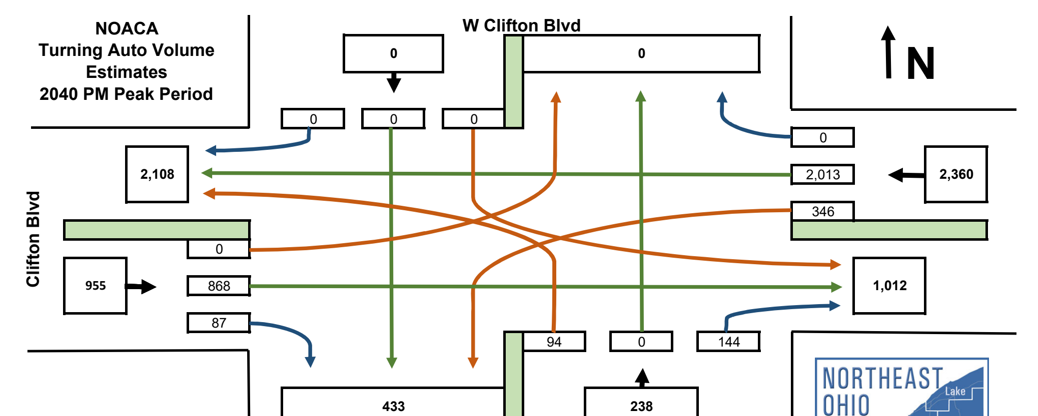
4,036
3,382
654
0
3,559
3,220
339
3,797
306
0
578
993
884


NOACA
Turning Auto Volume Estimates
2040 AM Peak Period
W Clifton Blvd
Clifton Blvd
N
0
0
0
0
0
0
380
412
349
62
0
1,315
1,242
74
1,428
31
0
186
136
217


NOACA
Turning Auto Volume Estimates
2040 PM Peak Period
W Clifton Blvd
Clifton Blvd
N
0
0
0
0
0
0
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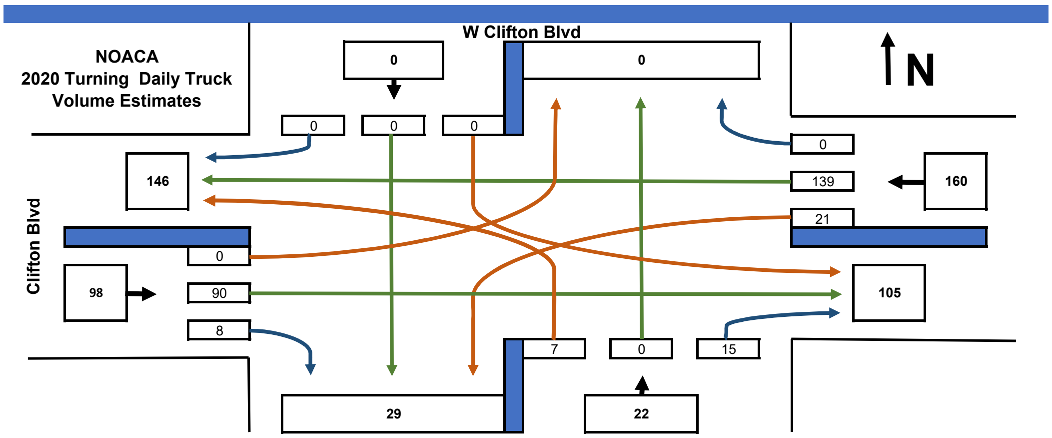
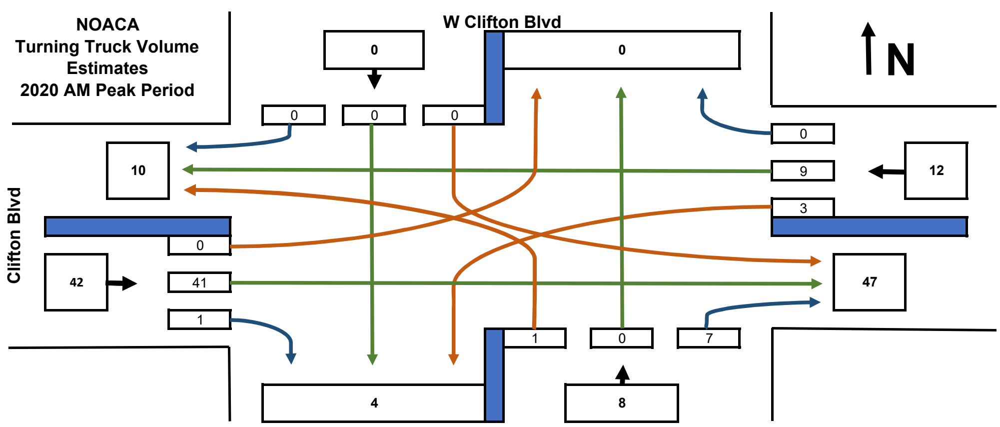
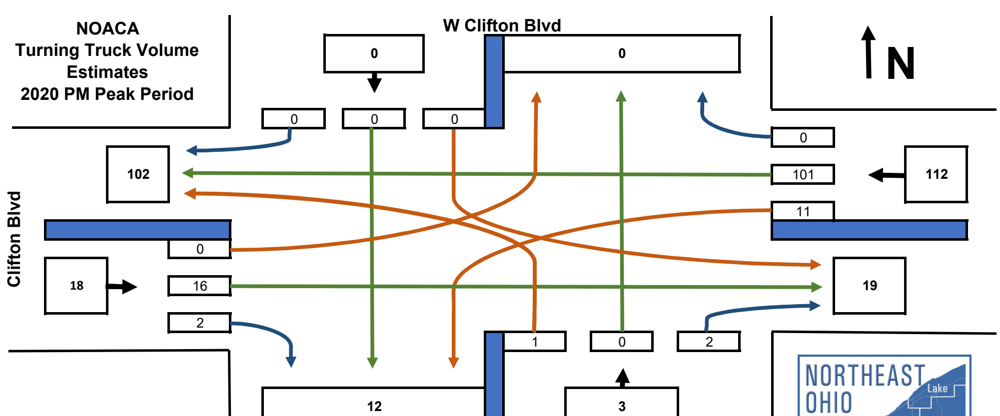
2,360
2,013
346
0
955
868
87
1,012
94
0
144
433
238







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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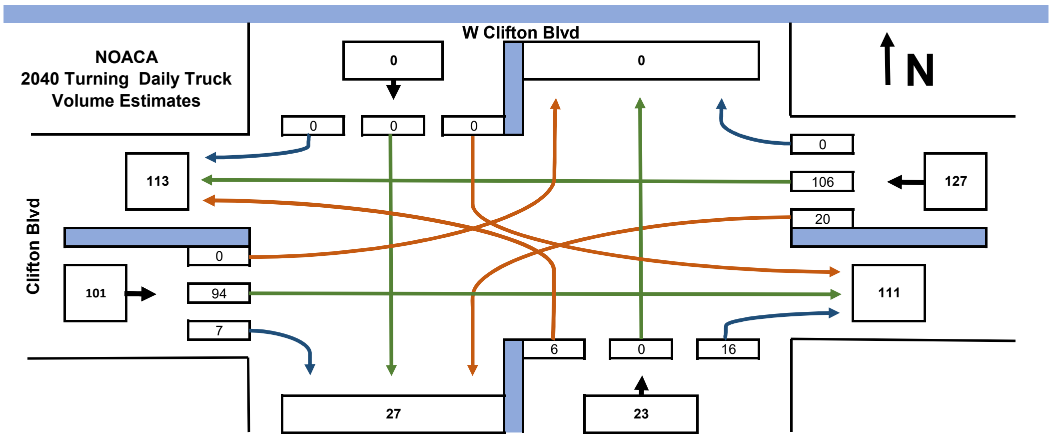
NOACA
2040 Turning Daily Truck
Volume Estimates
W Clifton Blvd
Clifton Blvd
N
0
0
0
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0
0
113
106
127
20
0
101
94
111
7
6
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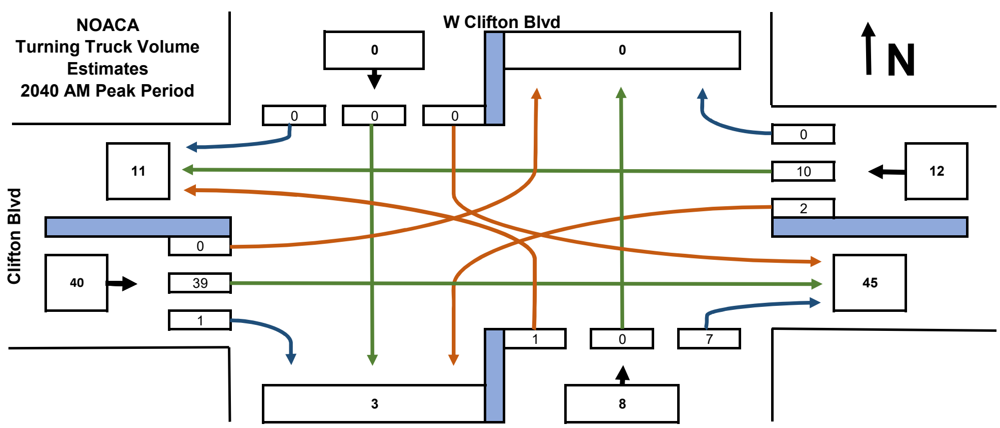
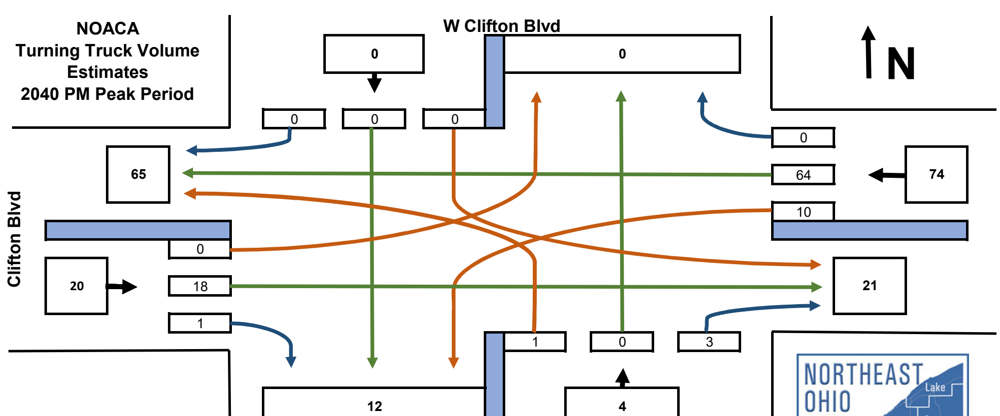
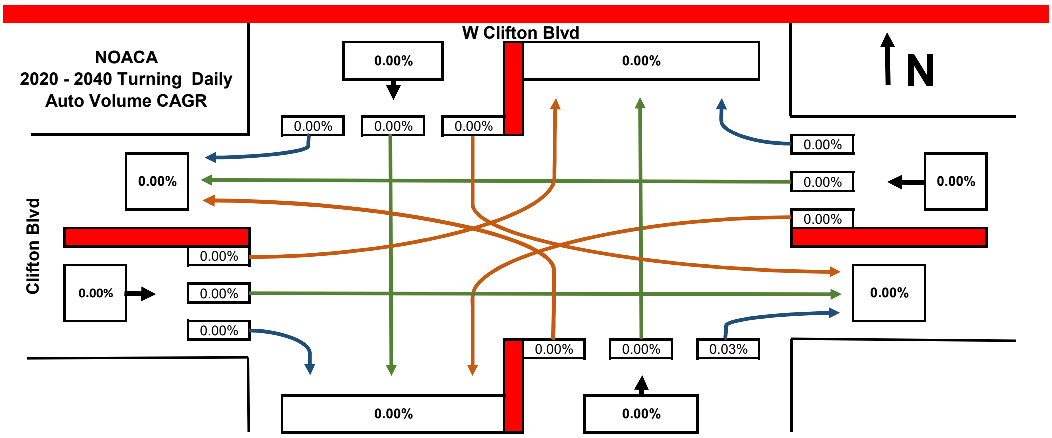
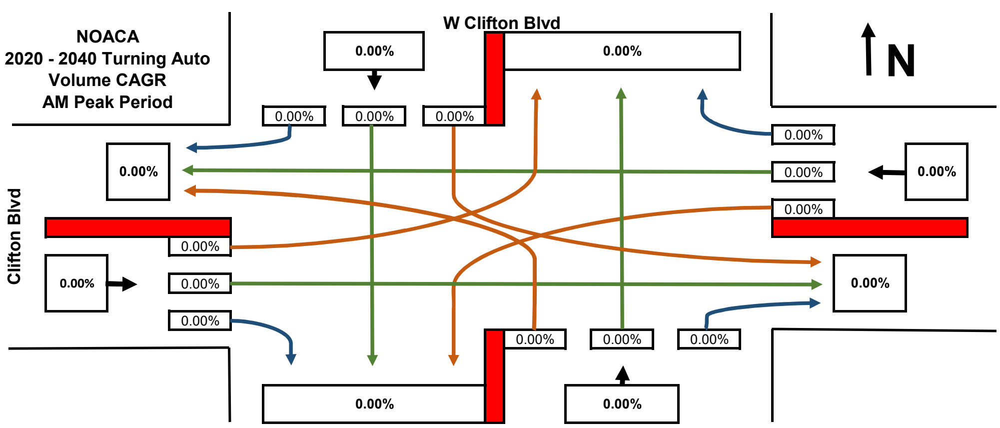
16
27
23


NOACA
Turning Truck Volume
Estimates
2040 AM Peak Period
W Clifton Blvd
Clifton Blvd
N
0
0
0
0
0
0
11
10
12
2
0
40
39
45
1
1
0
7
3
8


NOACA
Turning Truck Volume
Estimates
2040 PM Peak Period
W Clifton Blvd
Clifton Blvd
N
0
0
0
0
0
0
65
64
74
10
0
20
18
21
1
1
0
3
12
4


NOACA
2020 - 2040 Turning Daily
Auto Volume CAGR
W Clifton Blvd
Clifton Blvd
N
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.03%
0.00%
0.00%


NOACA
2020 - 2040 Turning Auto
Volume CAGR
AM Peak Period
W Clifton Blvd
Clifton Blvd
N
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
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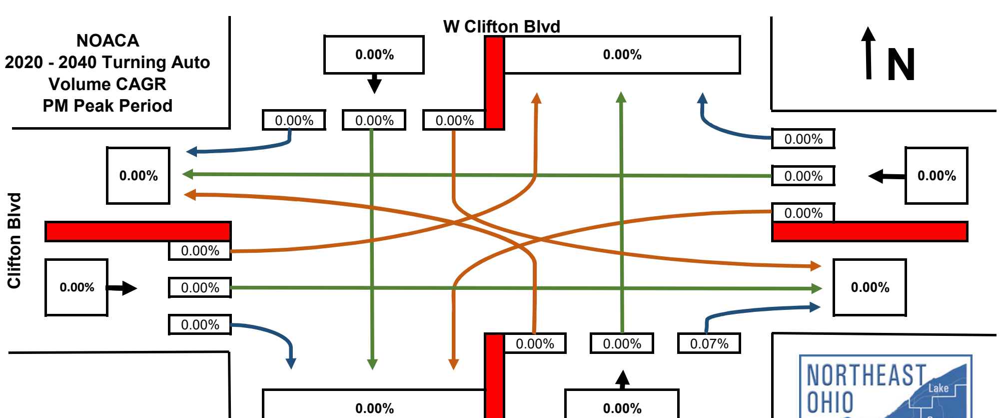
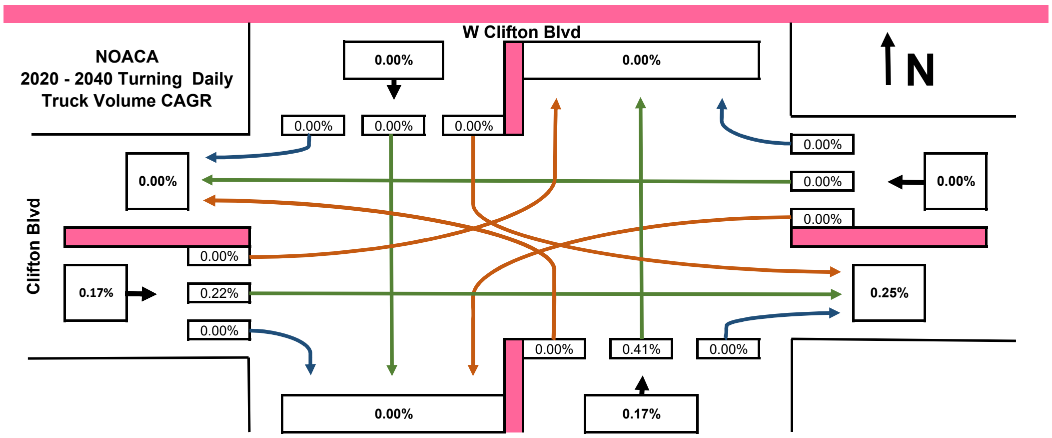
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%


NOACA
2020 - 2040 Turning Auto
Volume CAGR
PM Peak Period
W Clifton Blvd
Clifton Blvd
N
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.07%
0.00%
0.00%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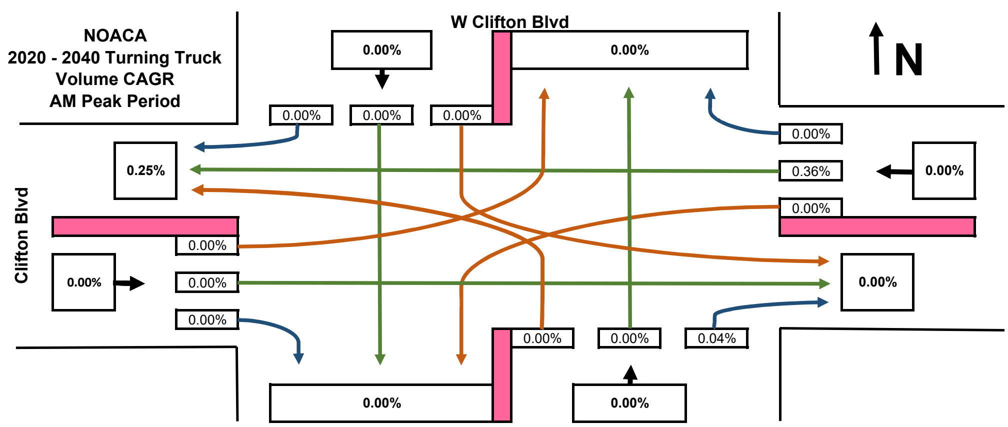
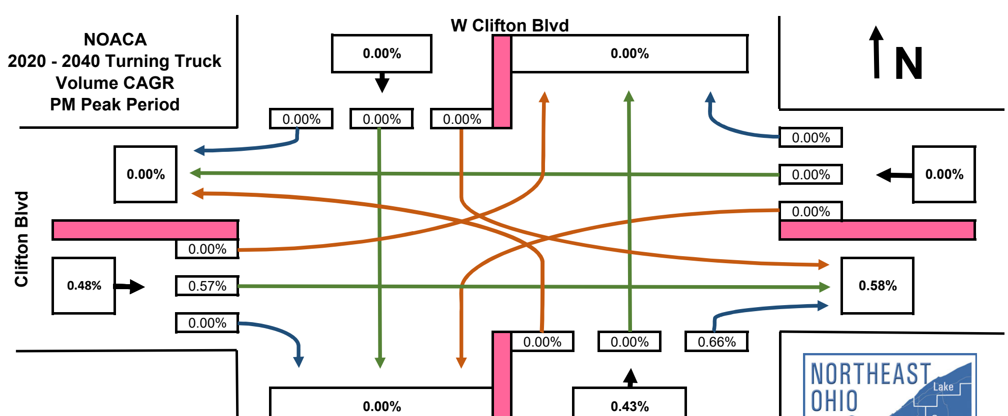
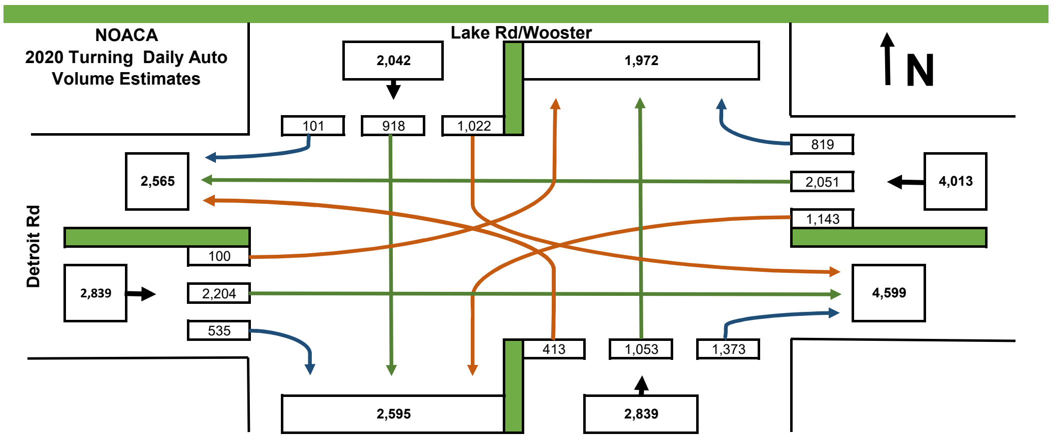
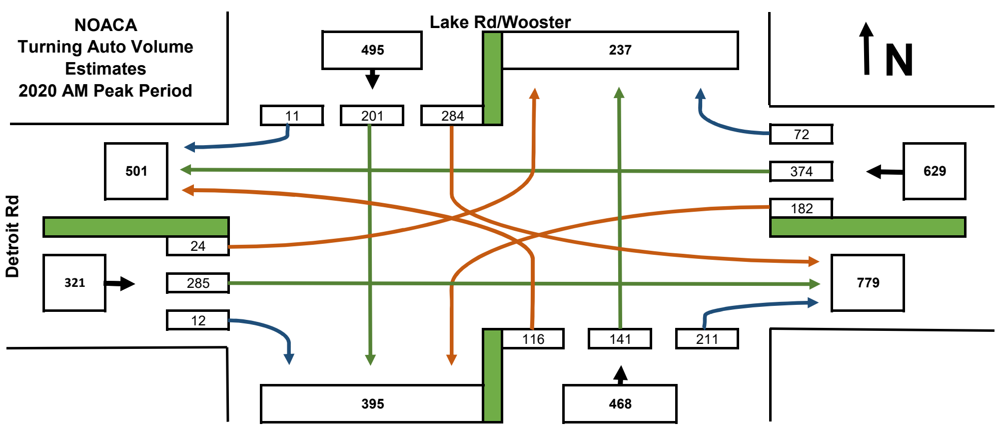
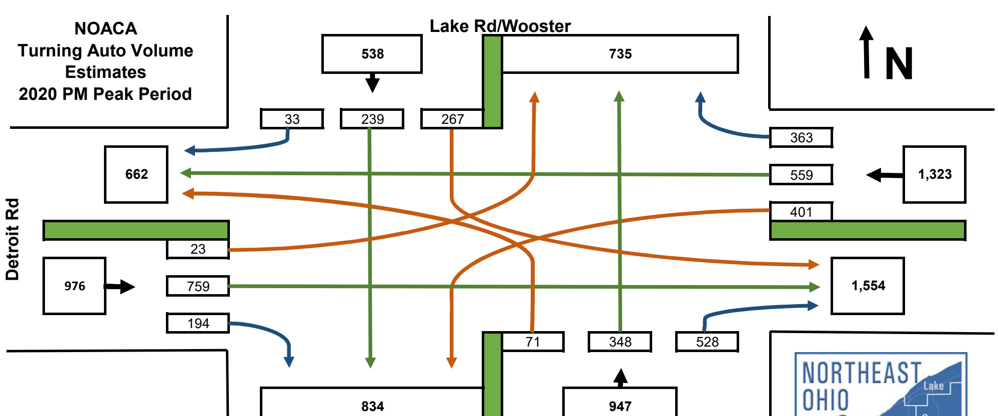
2020 - 2040 Turning Daily
Truck Volume CAGR
W Clifton Blvd
N
Clifton Blvd
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.17%
0.22%
0.00%
0.25%
0.00%
0.41%
0.00%
0.00%
0.17%

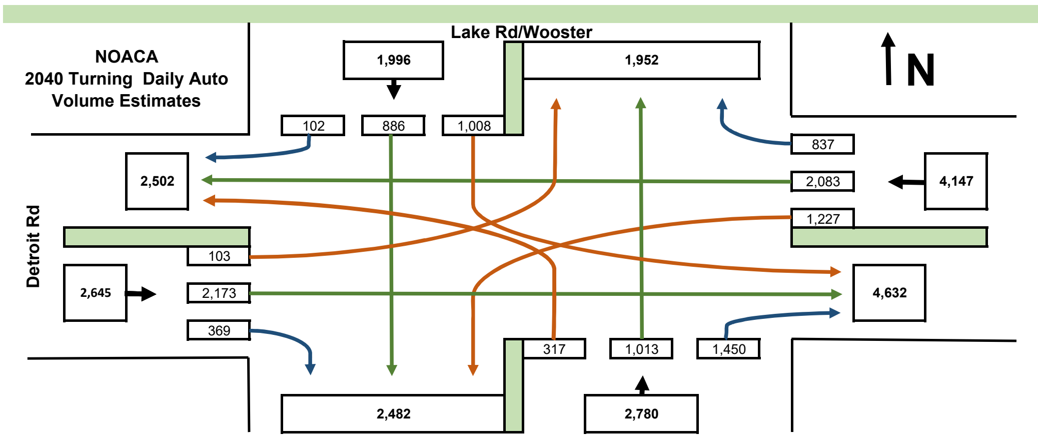

NOACA
2020 - 2040 Turning Truck
Volume CAGR
AM Peak Period
W Clifton Blvd
N
Clifton Blvd
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.25%
0.36%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.04%
0.00%
0.00%

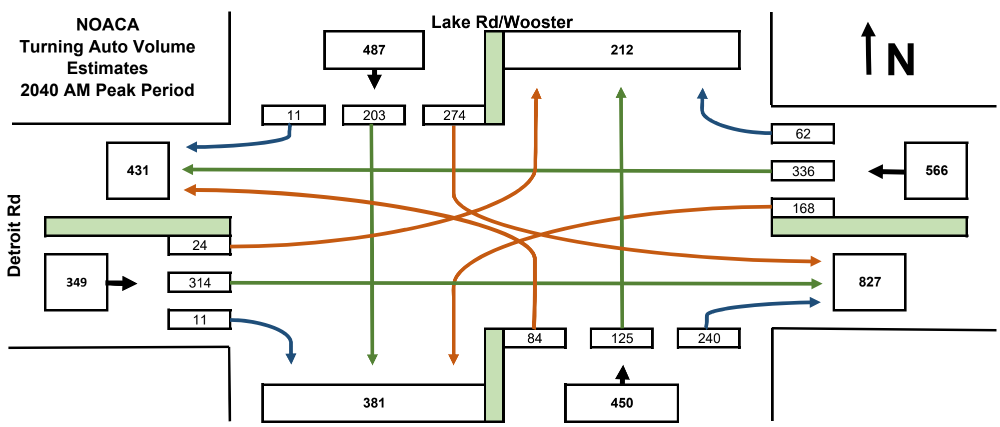

NOACA
2020 - 2040 Turning Truck
Volume CAGR
PM Peak Period
W Clifton Blvd
N
Clifton Blvd
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.48%
0.57%
0.00%
0.58%
0.00%
0.00%
0.66%
0.00%
0.43%

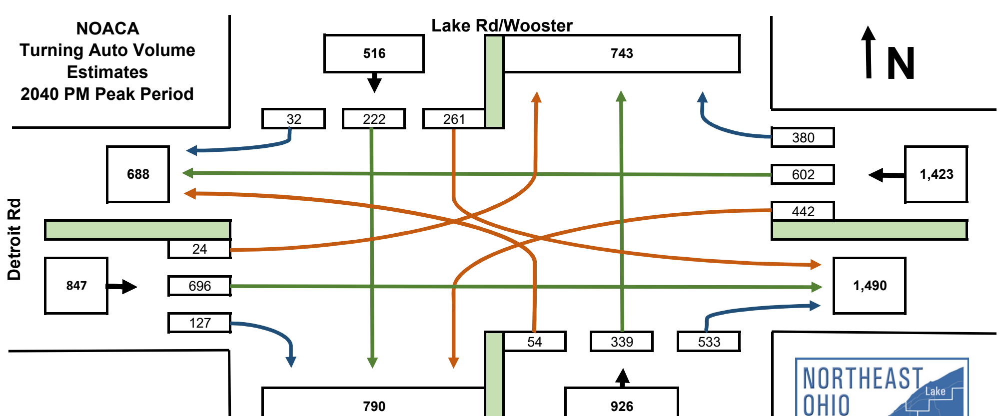

NOACA
2020 Turning Daily Auto Volume Estimates
Lake Rd/Wooster
Detroit Rd
N
2,042
1,972
101
918
1,022
819
2,051
1,143
4,013
2,565
100
2,204
535
2,839
4,599
413
1,053
1,373
2,595
2,839

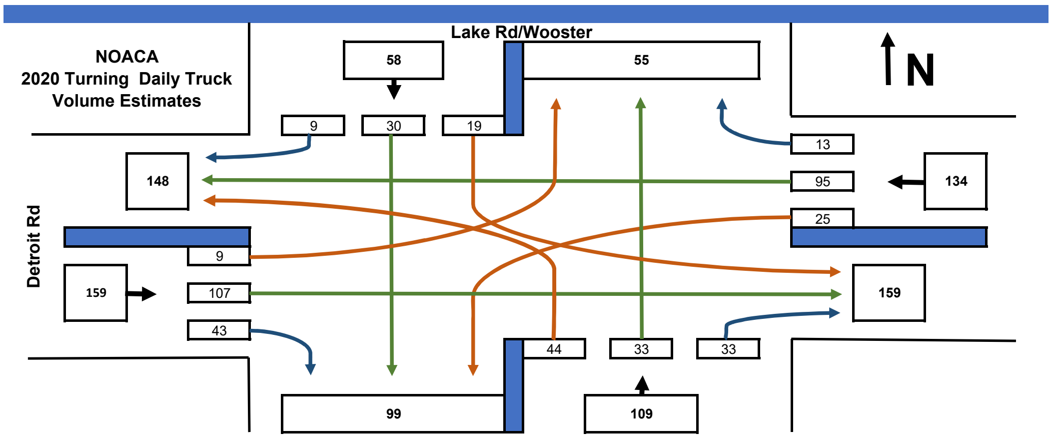

NOACA
Turning Auto Volume Estimates
2020 AM Peak Period
Lake Rd/Wooster
Detroit Rd
N
495
237
11
201
284
72
374
182
629
501
24
285
12
321
779
116
141
211
395
468

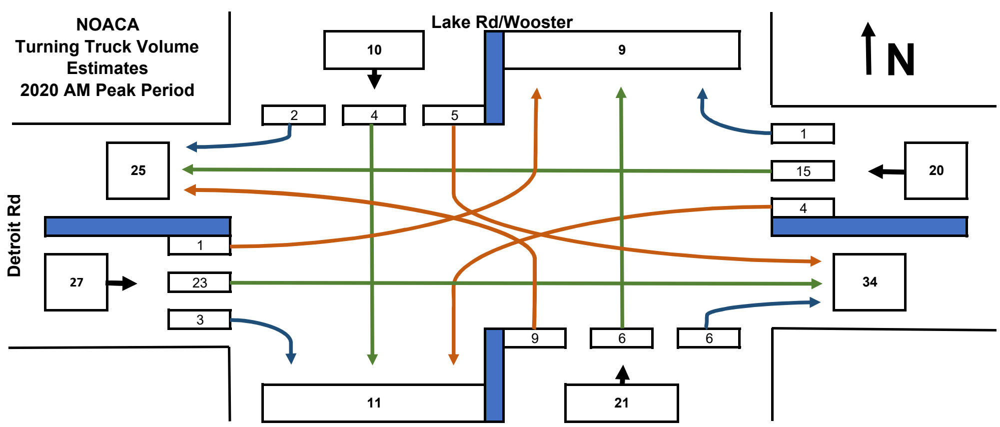

NOACA
Turning Auto Volume Estimates
2020 PM Peak Period
Lake Rd/Wooster
Detroit Rd
N
538
735
33
239
267
363
559
401
1,323
662
23
759
194
976
1,554
71
348
528
834
947

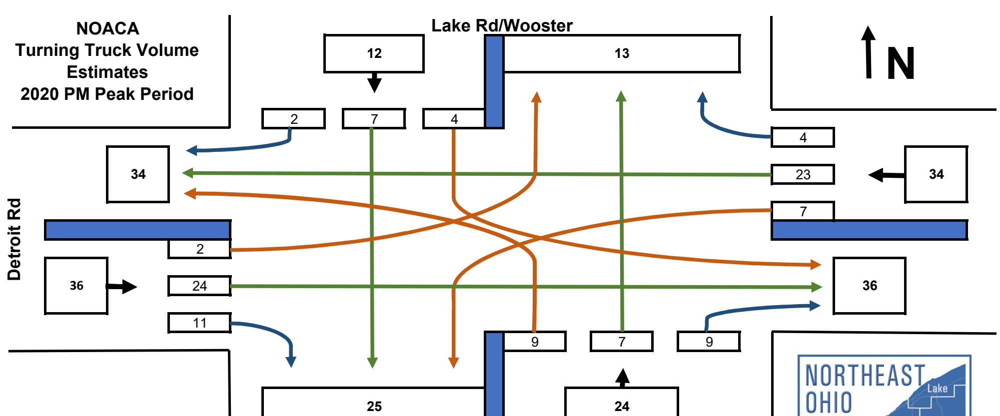

NOACA
2040 Turning Daily Auto
Volume Estimates
Lake Rd/Wooster
Detroit Rd
N
1,996
1,952
102
886
1,008
837
2,502
2,083
4,147
1,227
103
2,645
2,173
4,632
369
317
1,013
1,450
2,482
2,780

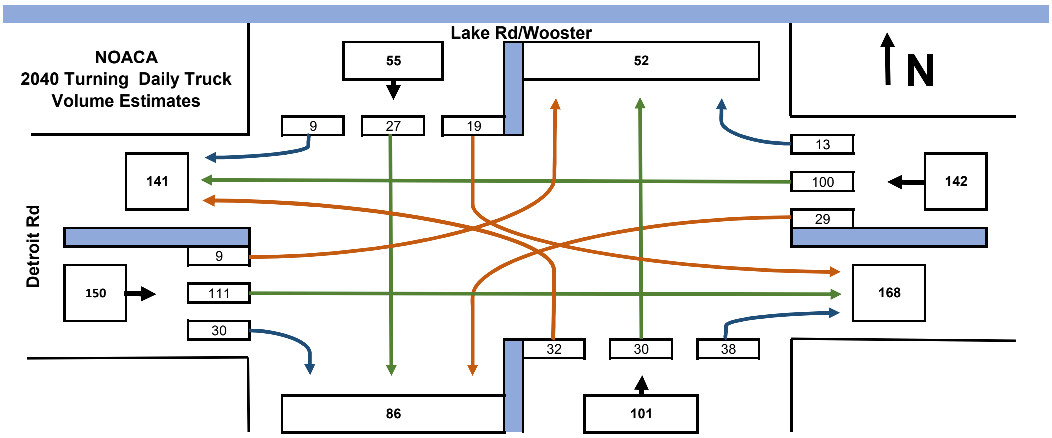

NOACA
Turning Auto Volume
Estimates
2040 AM Peak Period
Lake Rd/Wooster
Detroit Rd
N
487
212
11
203
274
62
431
336
566
168
24
349
314
827
11
84
125
240
381
450

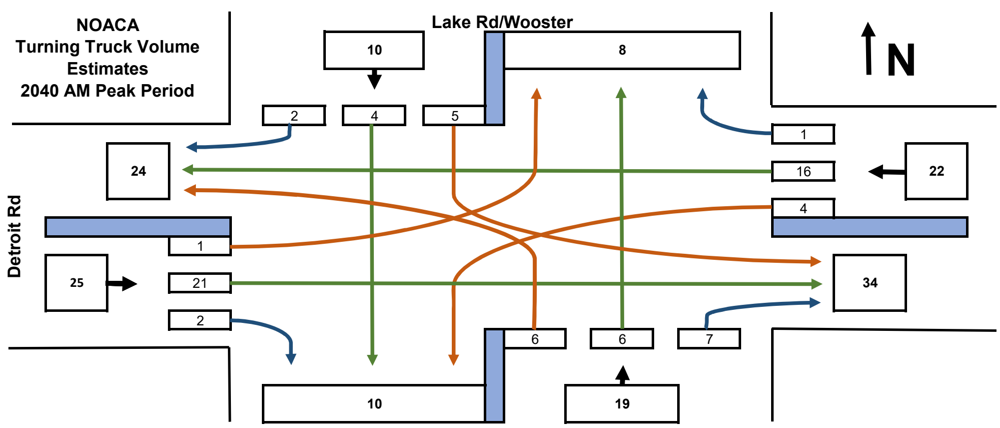

NOACA
Turning Auto Volume
Estimates
2040 PM Peak Period
Lake Rd/Wooster
Detroit Rd
N
516
743
32
222
261
380
688
602
1,423
442
24
847
696
1,490
127
54
339
533
790
926

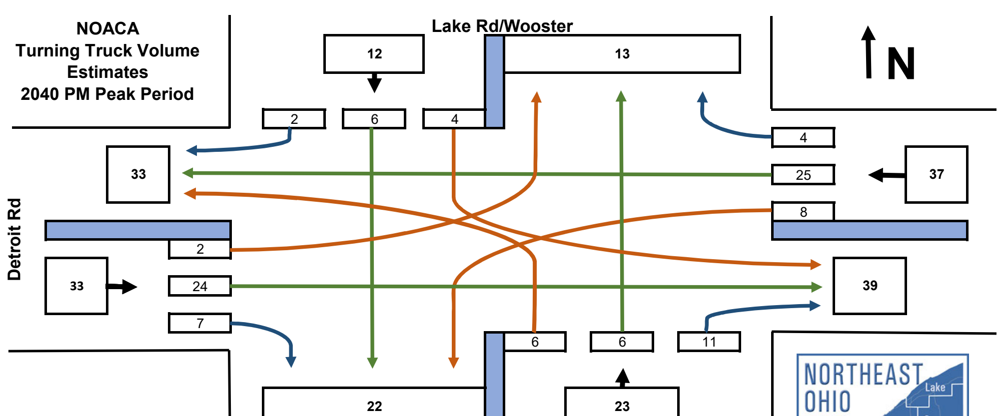

Lake Rd/Wooster
NOACA
2020 Turning Daily Truck
Volume Estimates
N
Detroit Rd
58
55
9
30
19
13
95
25
134
148
9
159
107
43
159
44
33
33
99
109

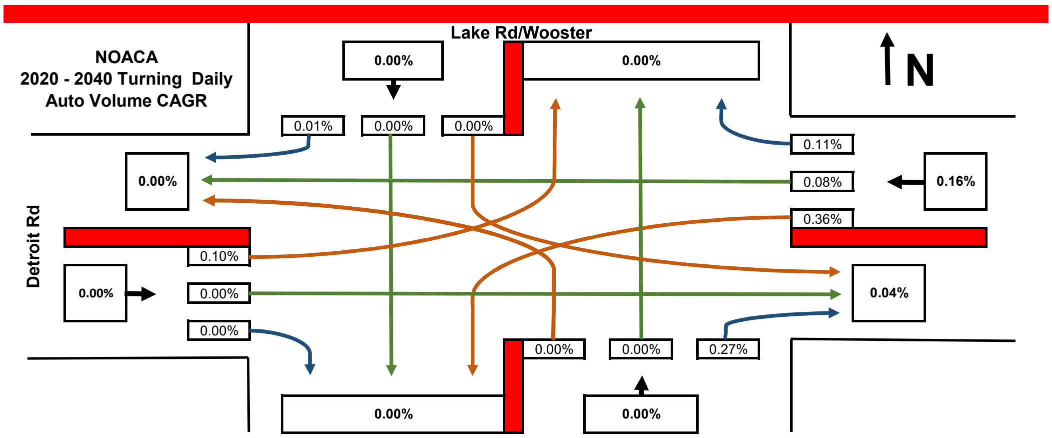

Lake Rd/Wooster
NOACA
Turning Truck Volume
Estimates
2020 AM Peak Period
N
Detroit Rd
10
9
2
4
5
1
15
4
20
25
1
27
23
3
34
9
6
6
11
21

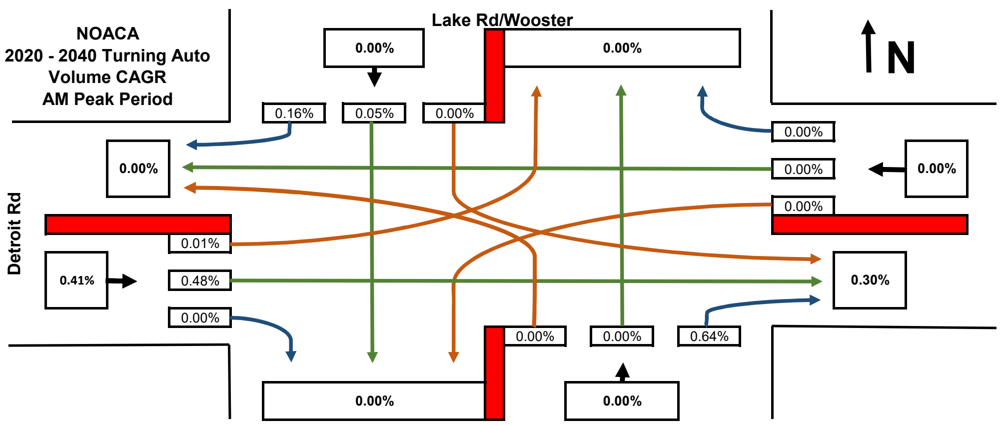

Lake Rd/Wooster
NOACA
Turning Truck Volume
Estimates
2020 PM Peak Period
N
Detroit Rd
12
13
2
7
4
4
23
7
34
34
2
36
24
11
36
9
7
9
25
24

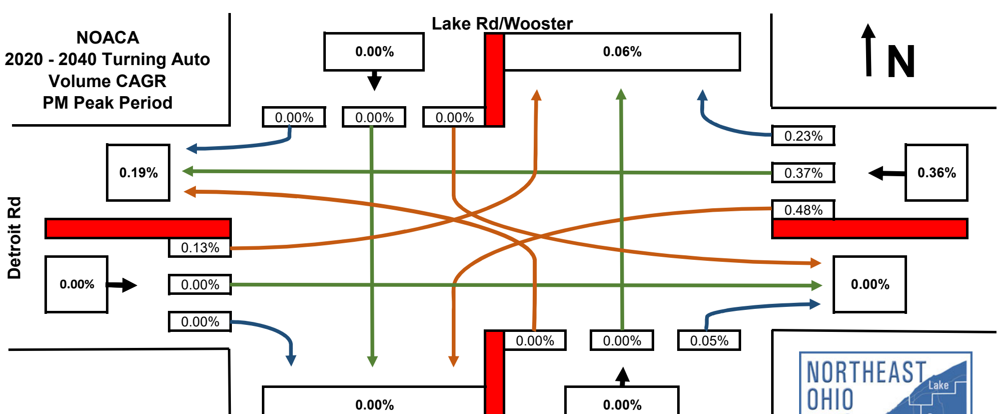

NOACA
2040 Turning Daily Truck Volume Estimates
Lake Rd/Wooster
Detroit Rd
N
55
52
9
27
19
13
141
100
142
29
9
150
111
168
30
32
30
38
86
101


NOACA
Turning Truck Volume Estimates
2040 AM Peak Period
Lake Rd/Wooster
Detroit Rd
N
10
8
2
4
5
1
24
16
22
4
1
25
21
34
2
6
6
7
10
19


NOACA
Turning Truck Volume Estimates
2040 PM Peak Period
Lake Rd/Wooster
Detroit Rd
N
12
13
2
6
4
4
33
25
37
8
2
33
24
39
7
6
6
11
22
23







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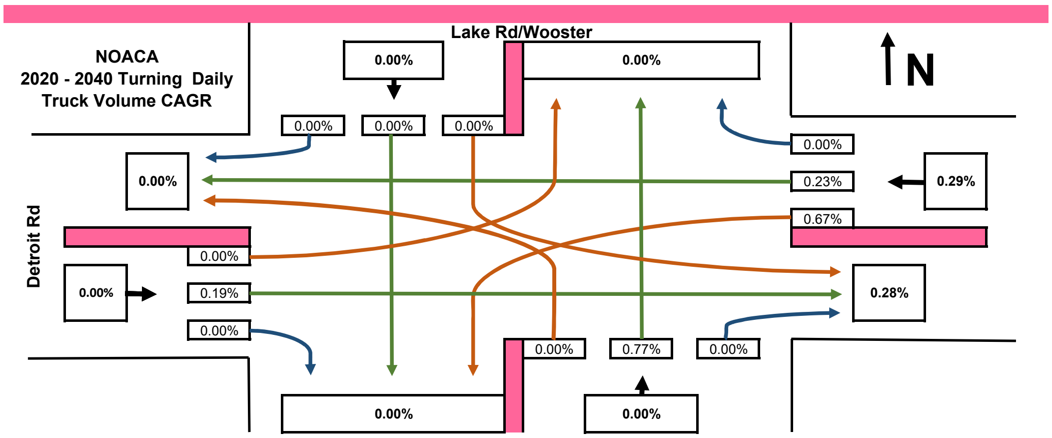
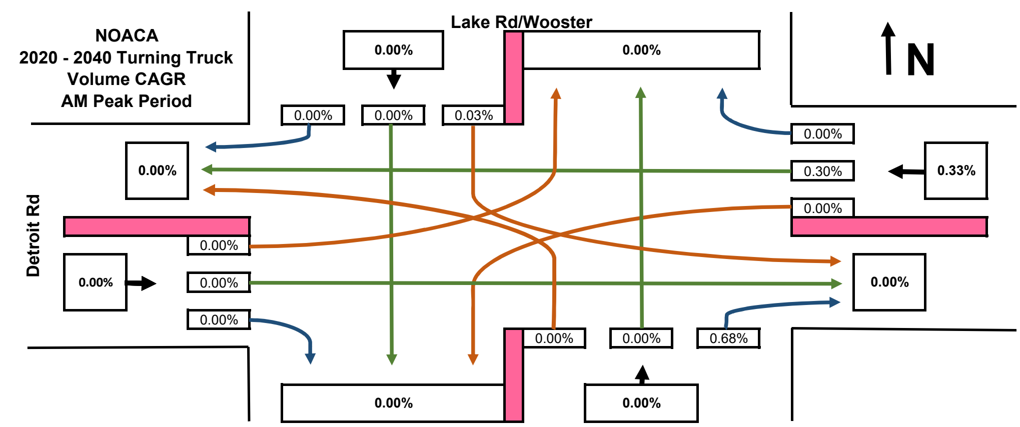
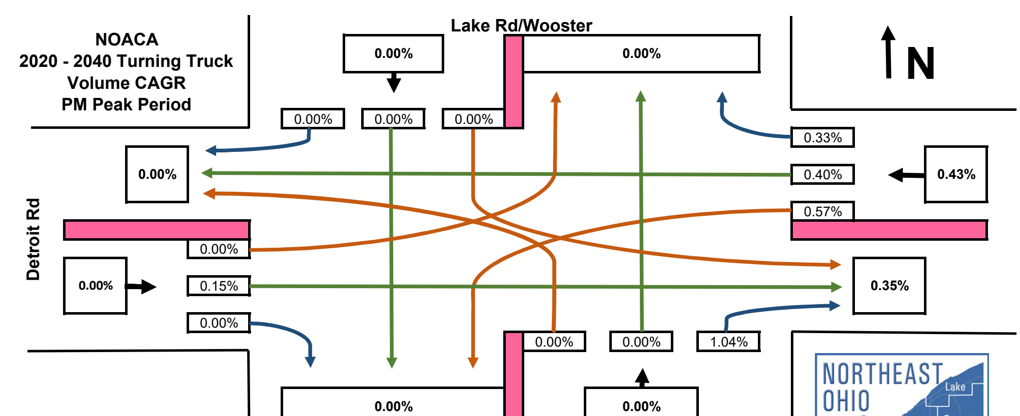
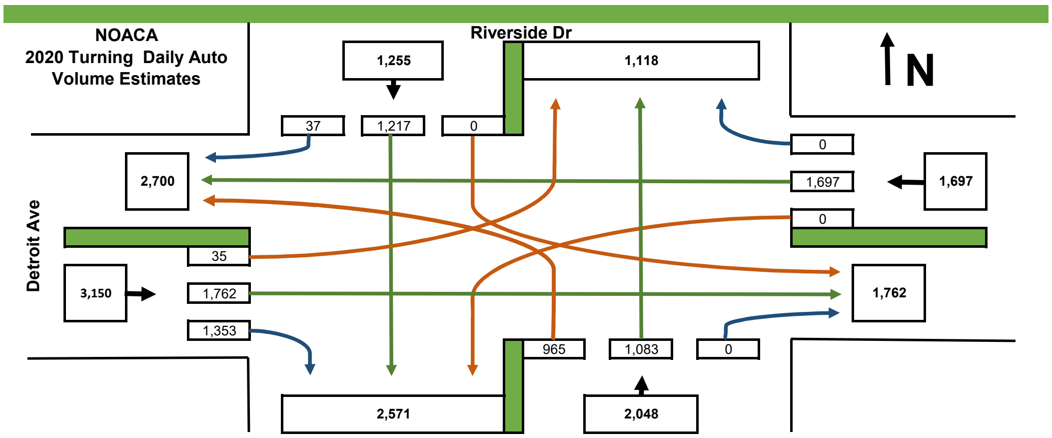
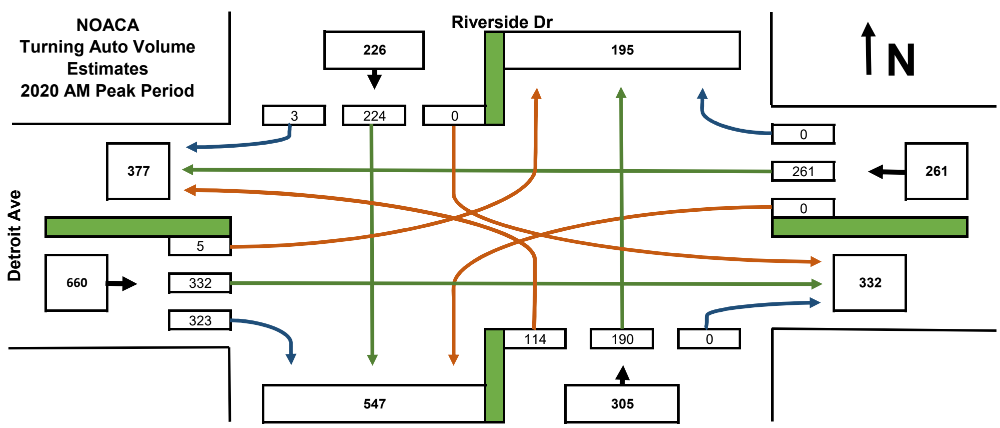
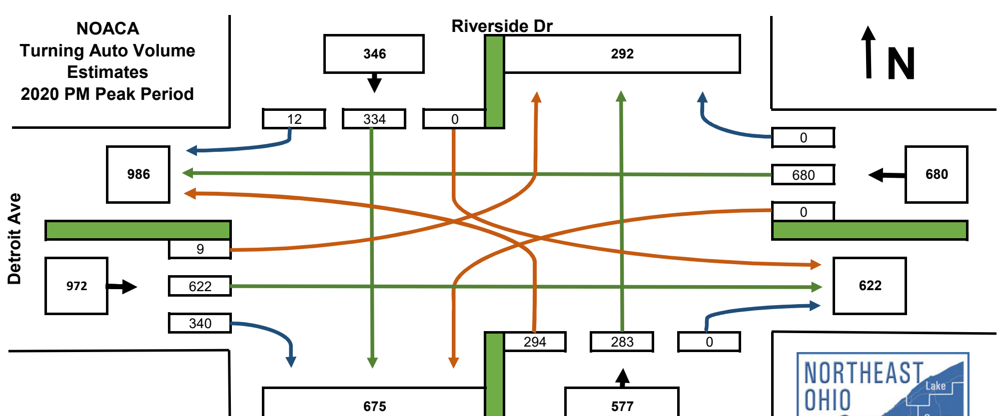

NOACA
2020 - 2040 Turning Daily
Truck Volume CAGR
Lake Rd/Wooster
N
Detroit Rd
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.23%
0.29%
0.67%
0.00%
0.00%
0.00%
0.19%
0.28%
0.00%
0.00%
0.77%
0.00%
0.00%
0.00%


NOACA
2020 - 2040 Turning Truck
Volume CAGR
AM Peak Period
Lake Rd/Wooster
N
Detroit Rd
0.00%
0.00%
0.00%
0.00%
0.03%
0.00%
0.00%
0.30%
0.33%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.68%
0.00%
0.00%


NOACA
2020 - 2040 Turning Truck
Volume CAGR
PM Peak Period
Lake Rd/Wooster
N
Detroit Rd
0.00%
0.00%
0.00%
0.00%
0.00%
0.33%
0.00%
0.40%
0.43%
0.57%
0.00%
0.00%
0.15%
0.35%
0.00%
0.00%
0.00%
1.04%
0.00%
0.00%







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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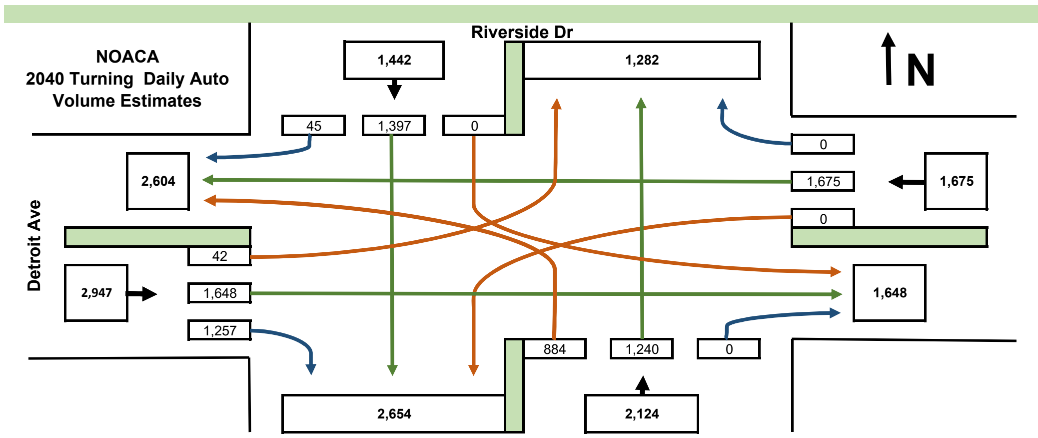
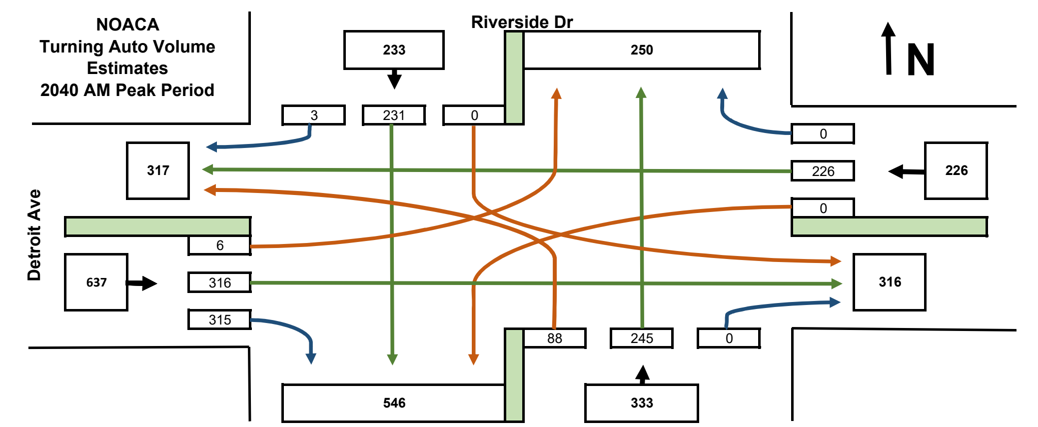
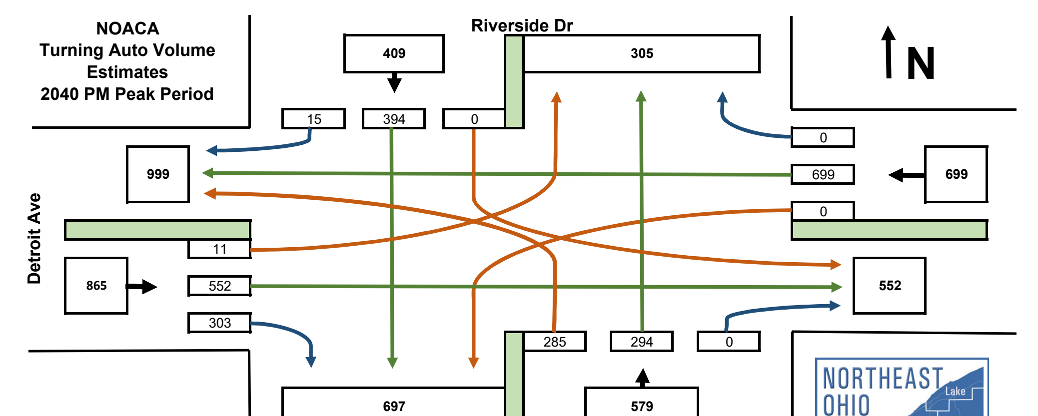
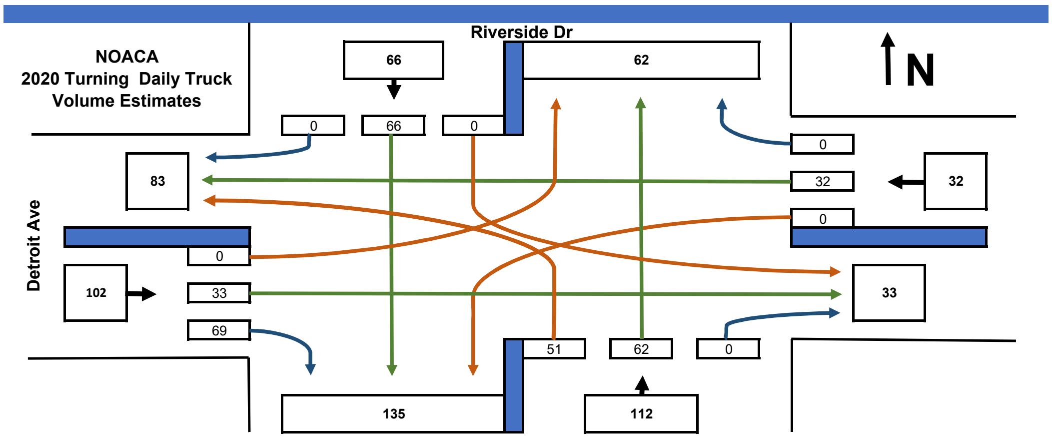
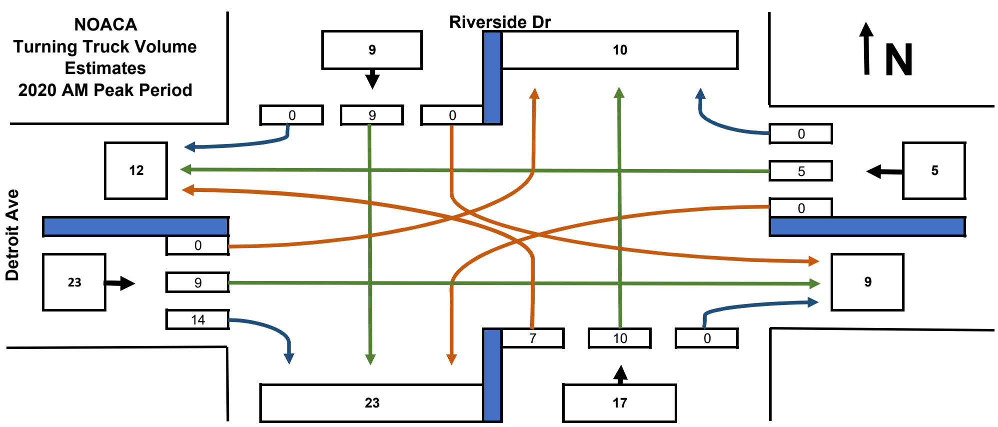
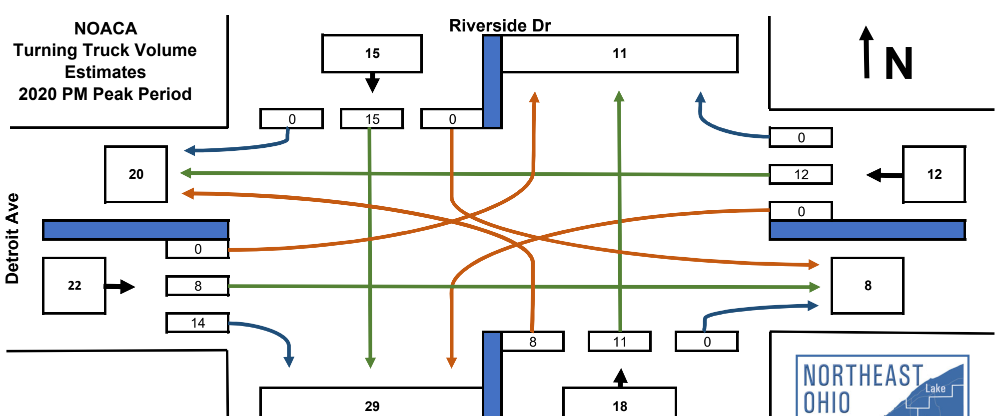

NOACA
2040 Turning Daily Auto Volume Estimates
Riverside Dr
Detroit Ave
N
1,442
1,282
45
1,397
0
2,604
0
1,675
1,675
0
42
2,947
1,648
1,648
1,257
884
1,240
0
2,654
2,124


NOACA
Turning Auto Volume Estimates
2040 AM Peak Period
Riverside Dr
Detroit Ave
N
233
250
3
231
0
317
0
226
226
0
6
637
316
316
315
88
245
0
546
333


NOACA
Turning Auto Volume Estimates
2040 PM Peak Period
Riverside Dr
Detroit Ave
N
409
305
15
394
0
999
0
699
699
0
11
865
552
552
303
285
294
0
697
579







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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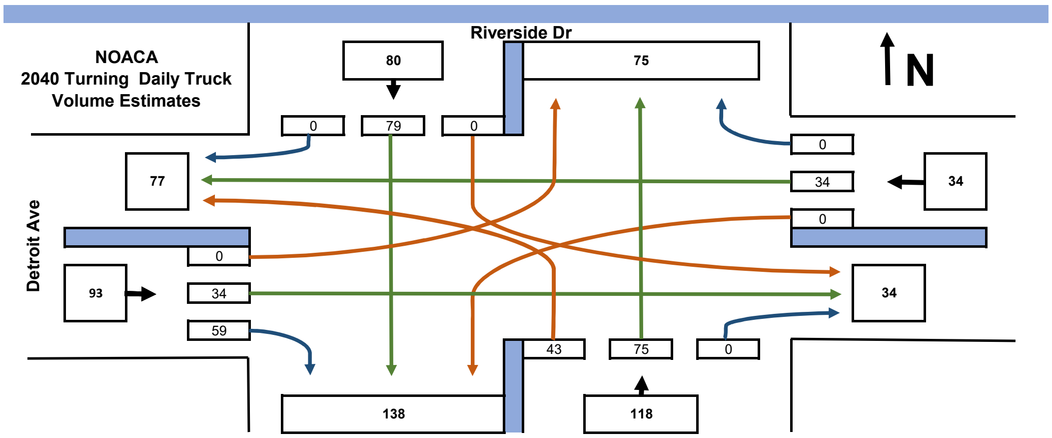
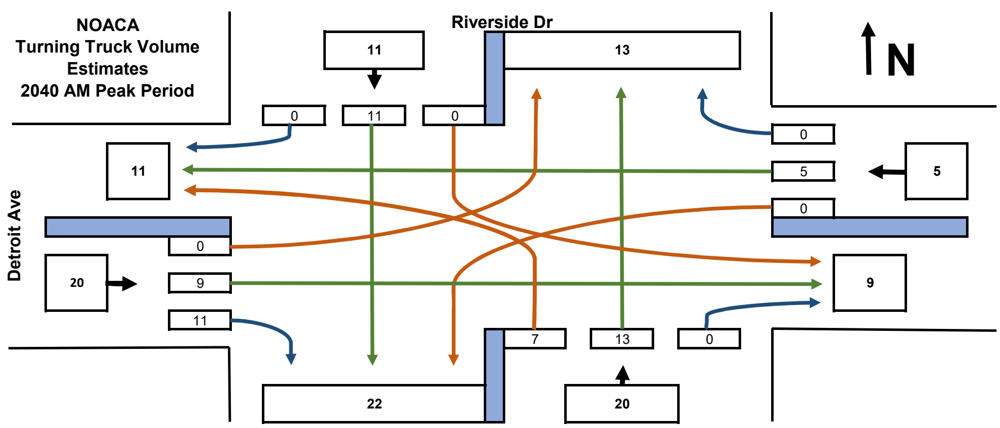
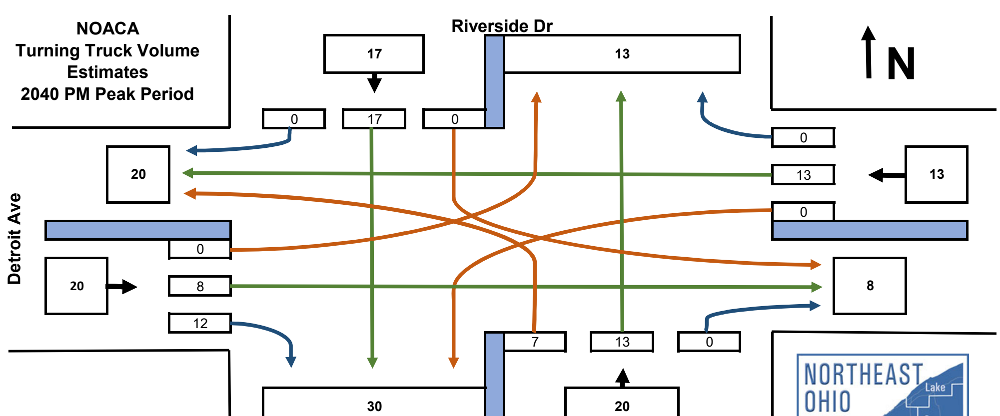
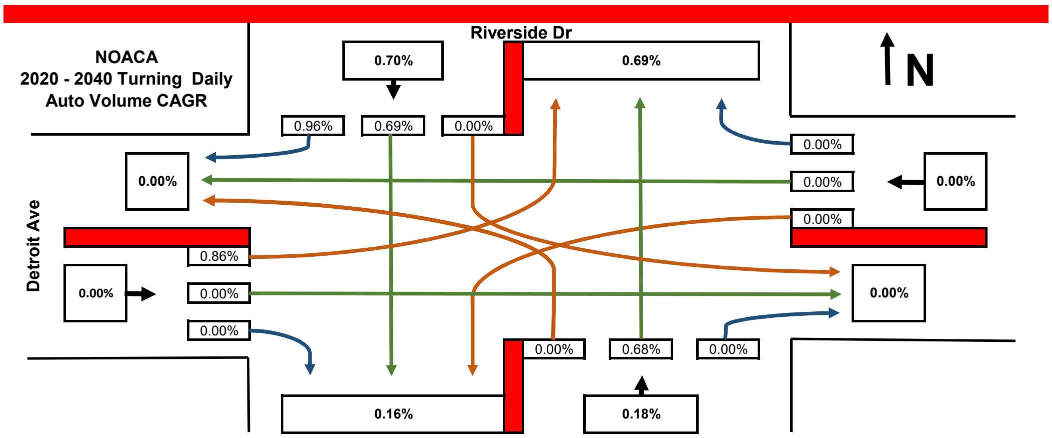
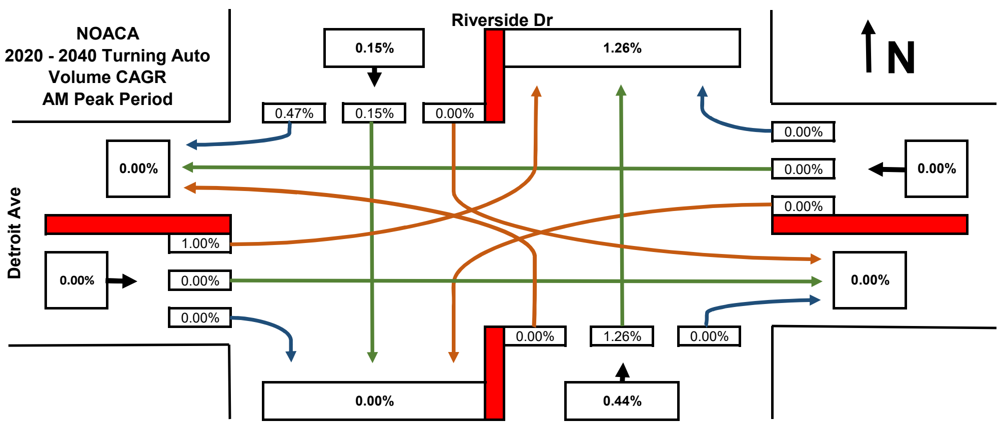
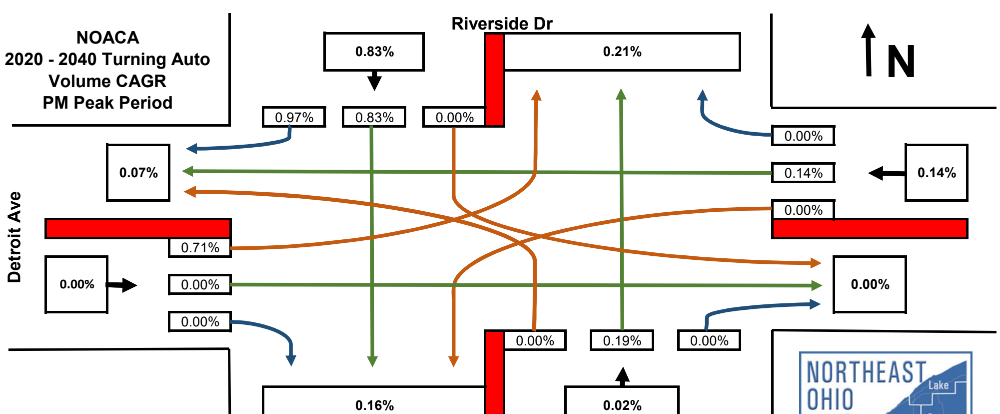

NOACA
2040 Turning Daily Truck
Volume Estimates
Riverside Dr
Detroit Ave
N
80
79
0
0
75
0
34
0
34
77
93
0
34
59
34
43
75
0
138
118

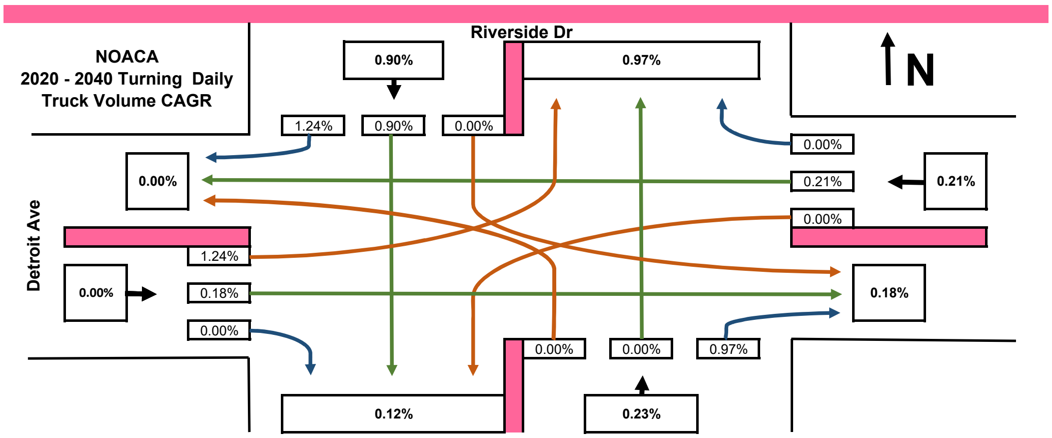

NOACA
Turning Truck Volume
Estimates
2040 AM Peak Period
Riverside Dr
Detroit Ave
N
11
11
0
0
13
0
5
0
5
11
20
0
9
11
9
7
13
0
22
20

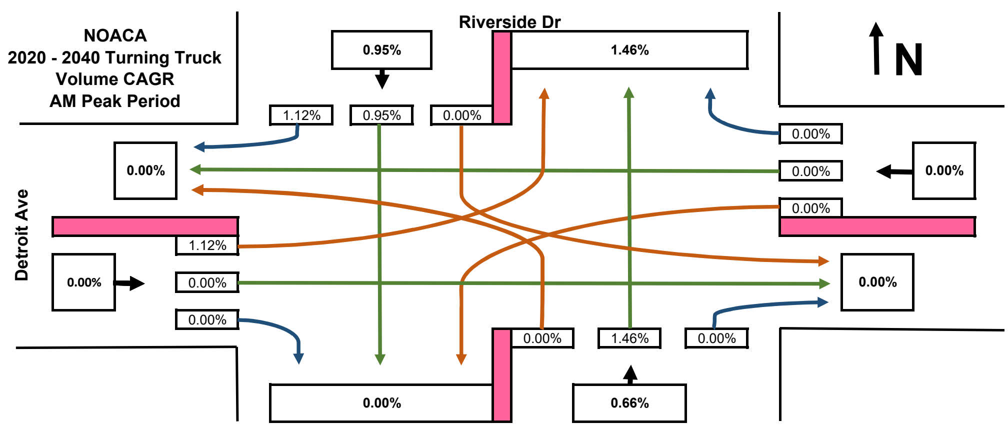

NOACA
Turning Truck Volume
Estimates
2040 PM Peak Period
Riverside Dr
Detroit Ave
N
17
17
0
0
13
0
13
0
13
20
20
0
8
12
8
7
13
0
30
20

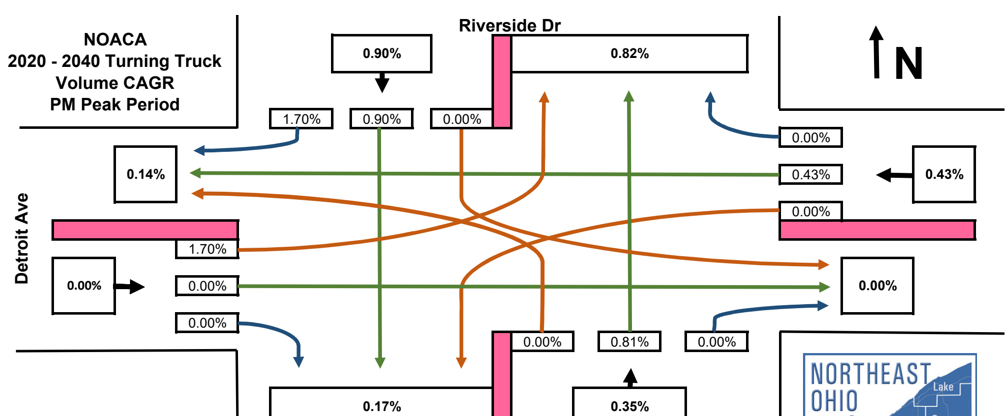

NOACA
2020 - 2040 Turning Daily
Auto Volume CAGR
Riverside Dr
Detroit Ave
N
0.70%
0.69%
0.96%
0.69%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.86%
0.00%
0.00%
0.00%
0.00%
0.00%
0.68%
0.00%
0.16%
0.18%

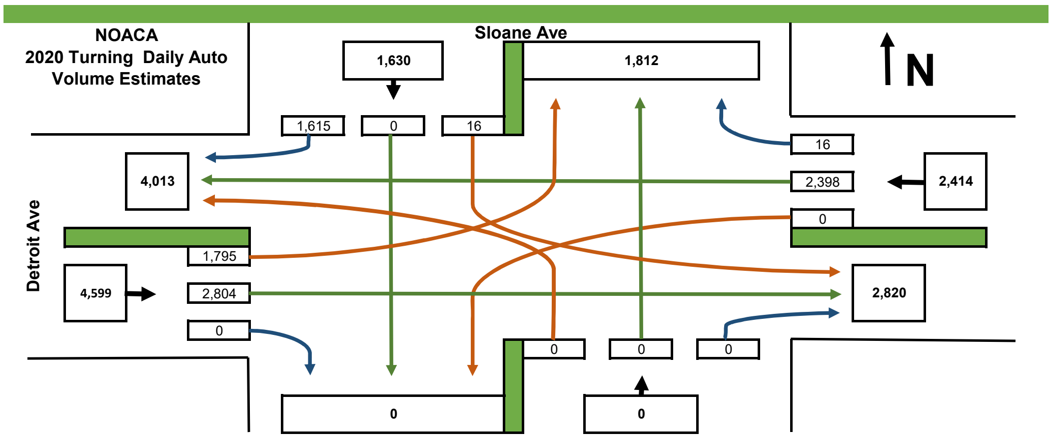

NOACA
2020 - 2040 Turning Auto
Volume CAGR
AM Peak Period
Riverside Dr
Detroit Ave
N
0.15%
1.26%
0.47%
0.15%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
1.00%
0.00%
0.00%
0.00%
0.00%
0.00%
1.26%
0.00%
0.00%
0.44%

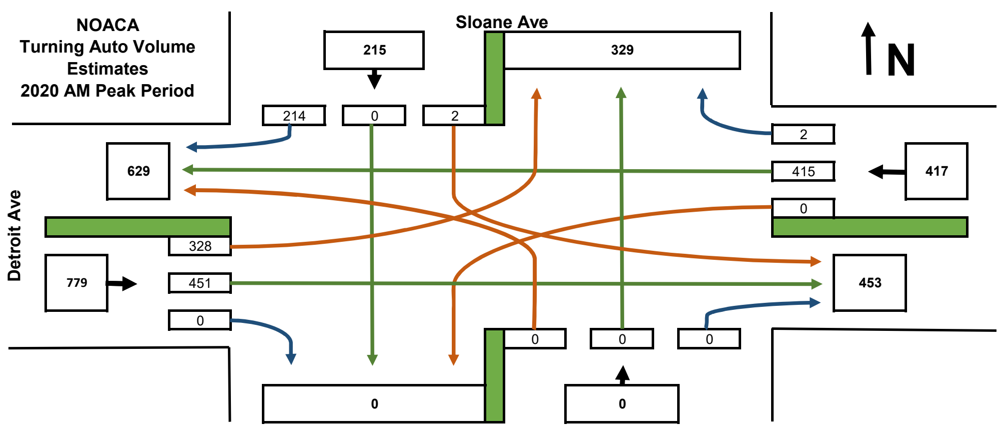

NOACA
2020 - 2040 Turning Auto
Volume CAGR
PM Peak Period
Riverside Dr
Detroit Ave
N
0.83%
0.21%
0.97%
0.83%
0.00%
0.00%
0.07%
0.14%
0.14%
0.00%
0.71%
0.00%
0.00%
0.00%
0.00%
0.00%
0.19%
0.00%
0.16%
0.02%

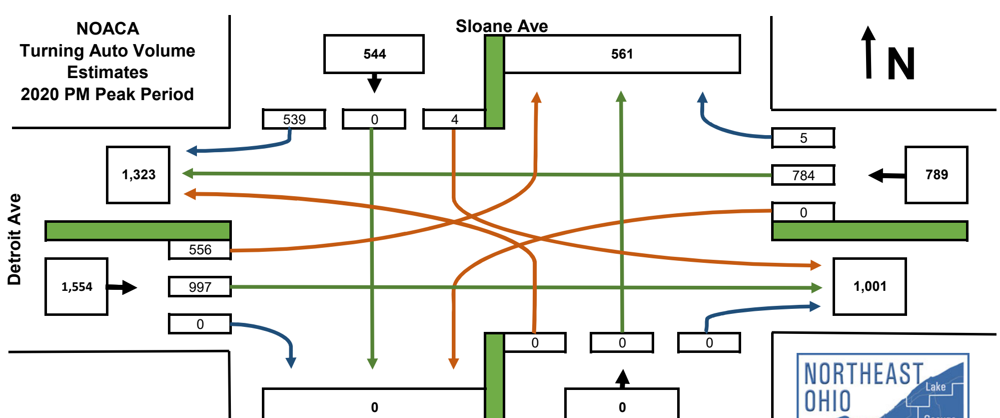

NOACA
2020 - 2040 Turning Daily
Truck Volume CAGR
Riverside Dr
Detroit Ave
N
0.90%
0.97%
1.24%
0.90%
0.00%
0.00%
0.00%
0.21%
0.21%
0.00%
1.24%
0.00%
0.18%
0.18%
0.00%
0.00%
0.00%
0.97%
0.12%
0.23%


NOACA
2020 - 2040 Turning Truck
Volume CAGR
AM Peak Period
Riverside Dr
Detroit Ave
N
0.95%
1.46%
1.12%
0.95%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
1.12%
0.00%
0.00%
0.00%
0.00%
0.00%
1.46%
0.00%
0.00%
0.66%


NOACA
2020 - 2040 Turning Truck
Volume CAGR
PM Peak Period
Riverside Dr
Detroit Ave
N
0.90%
0.82%
1.70%
0.90%
0.00%
0.00%
0.14%
0.43%
0.43%
0.00%
1.70%
0.00%
0.00%
0.00%
0.00%
0.00%
0.81%
0.00%
0.17%
0.35%







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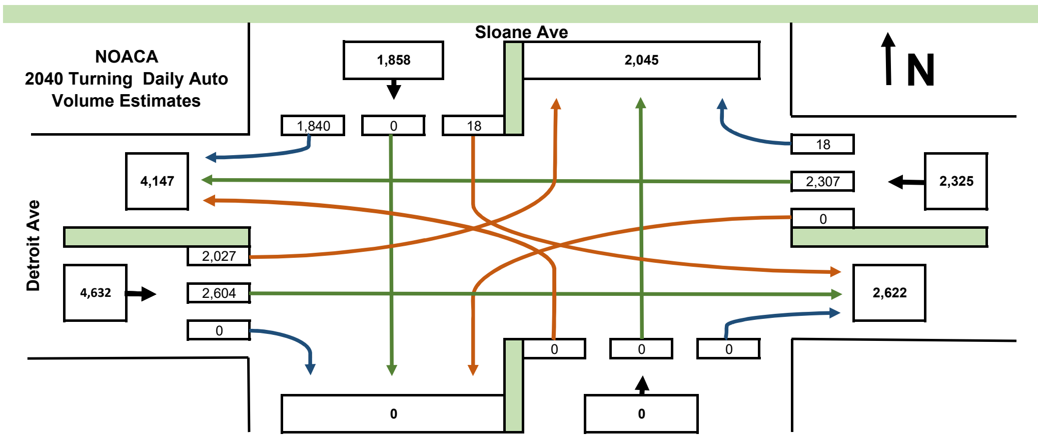
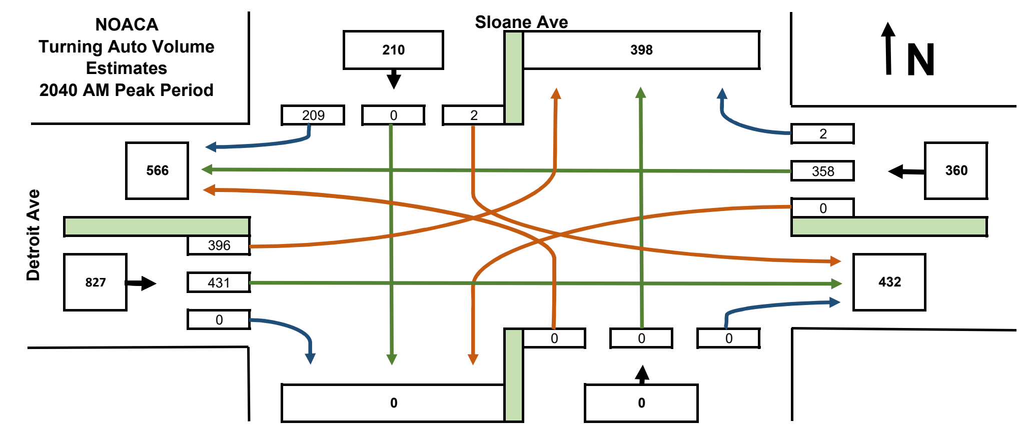
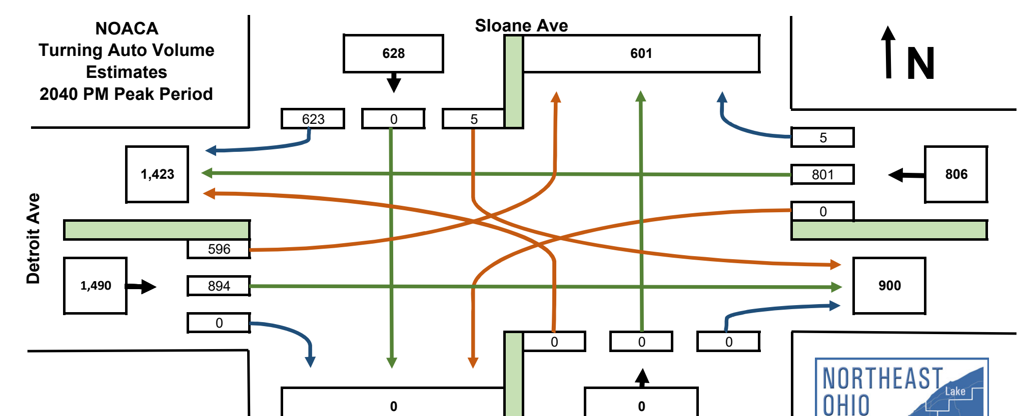
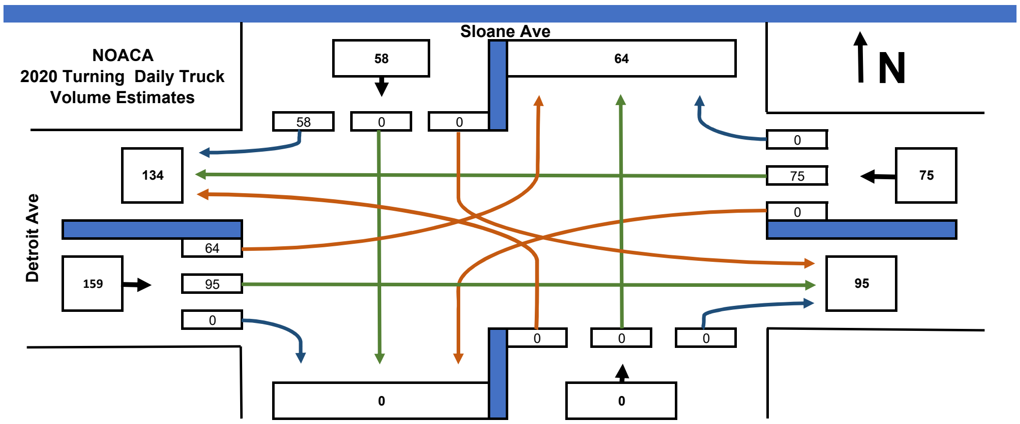
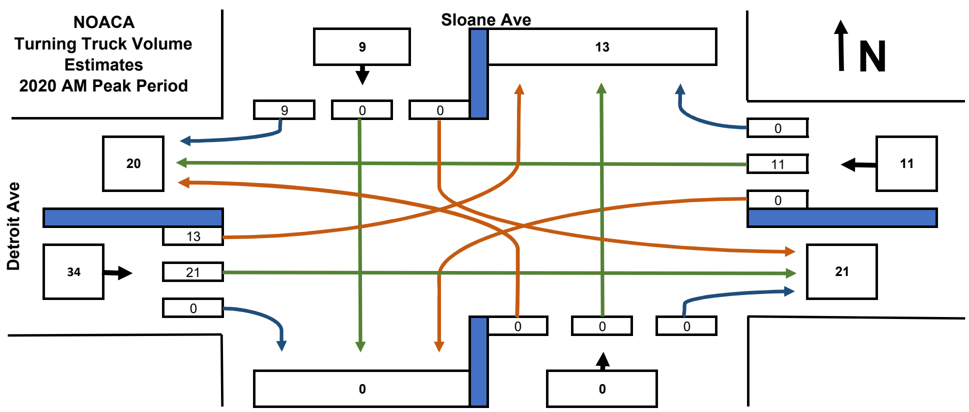
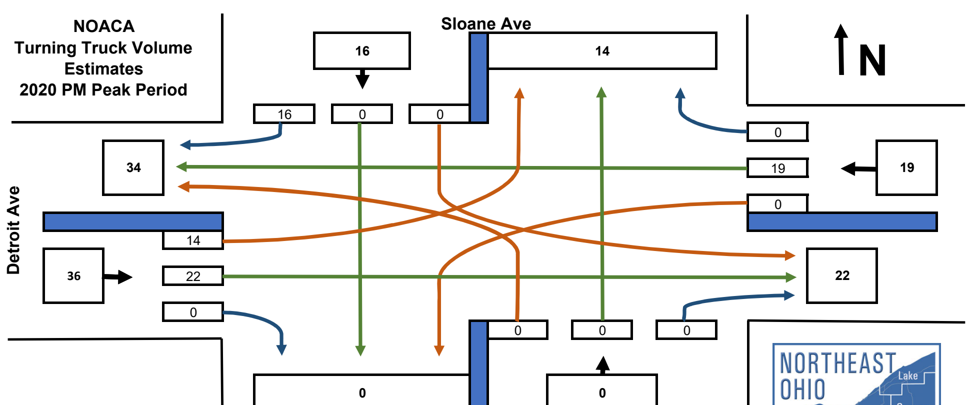

NOACA
2040 Turning Daily Auto
Volume Estimates
Sloane Ave
Detroit Ave
N
1,858
2,045
1,840
0
18
18
2,307
0
2,325
4,147
2,027
4,632
2,604
0
2,622
0
0
0
0
0


NOACA
Turning Auto Volume
Estimates
2040 AM Peak Period
Sloane Ave
Detroit Ave
N
210
398
209
0
2
2
358
0
360
566
396
827
431
0
432
0
0
0
0
0


NOACA
Turning Auto Volume
Estimates
2040 PM Peak Period
Sloane Ave
Detroit Ave
N
628
601
623
0
5
5
801
0
806
1,423
596
1,490
894
0
900
0
0
0
0
0







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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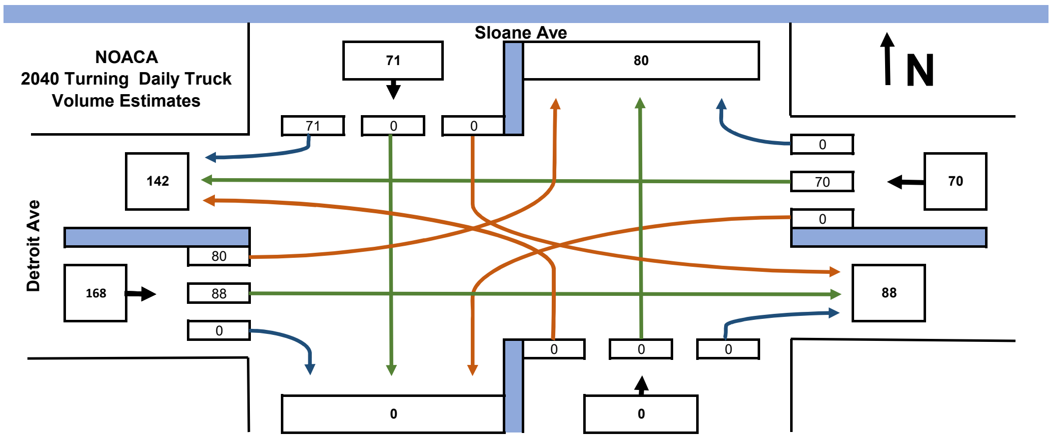

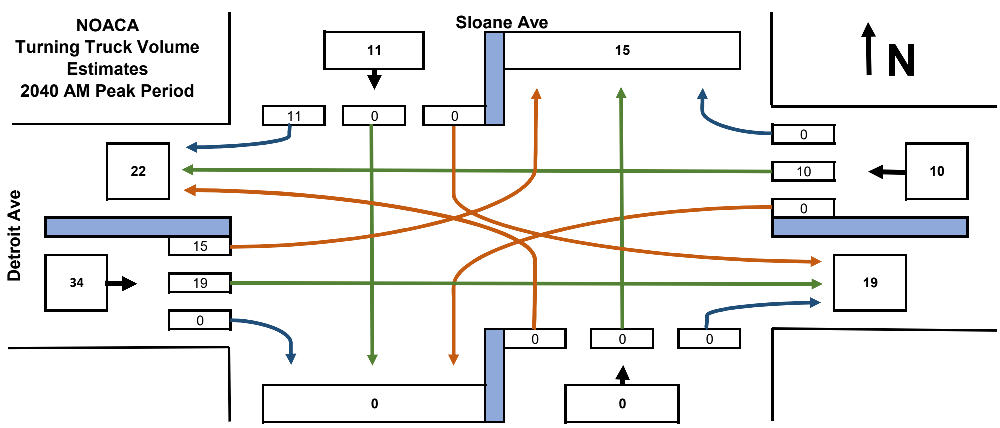

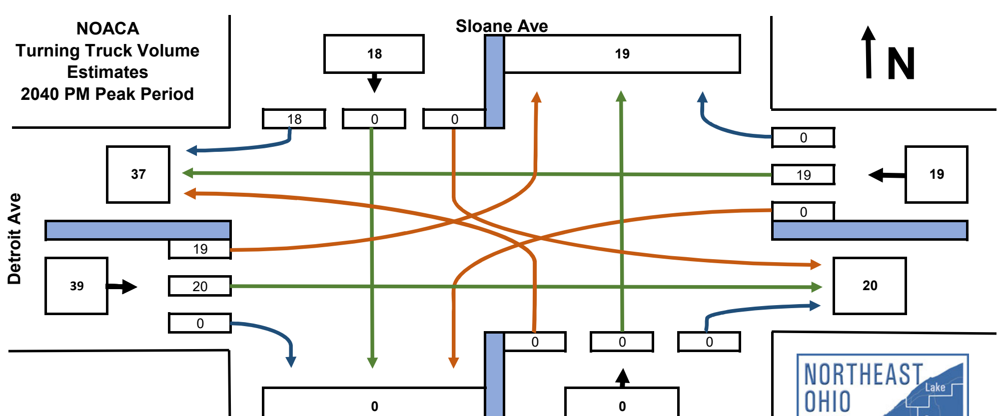

NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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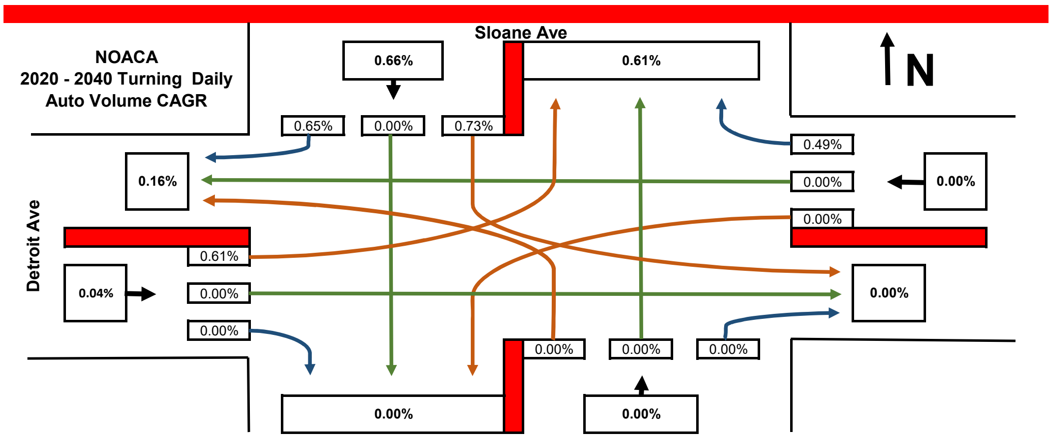

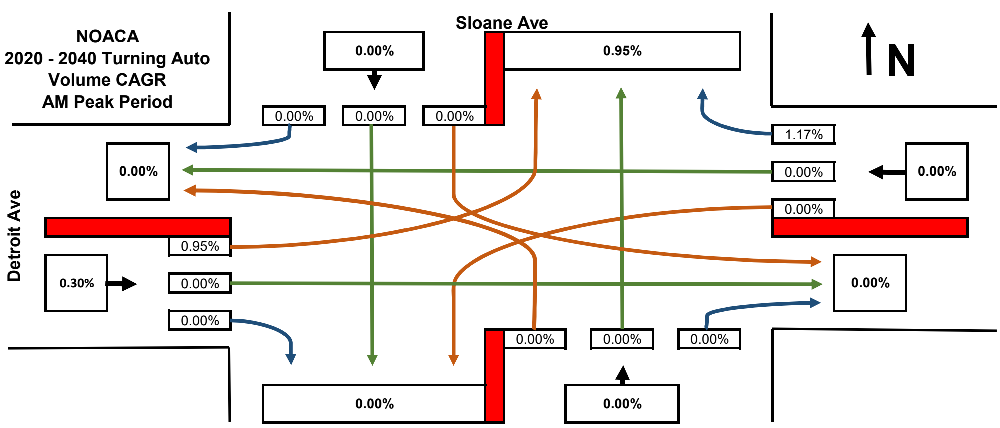

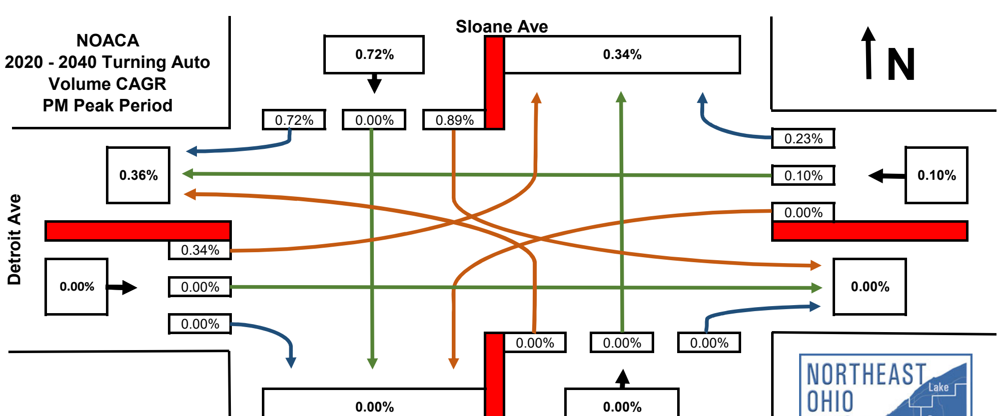

NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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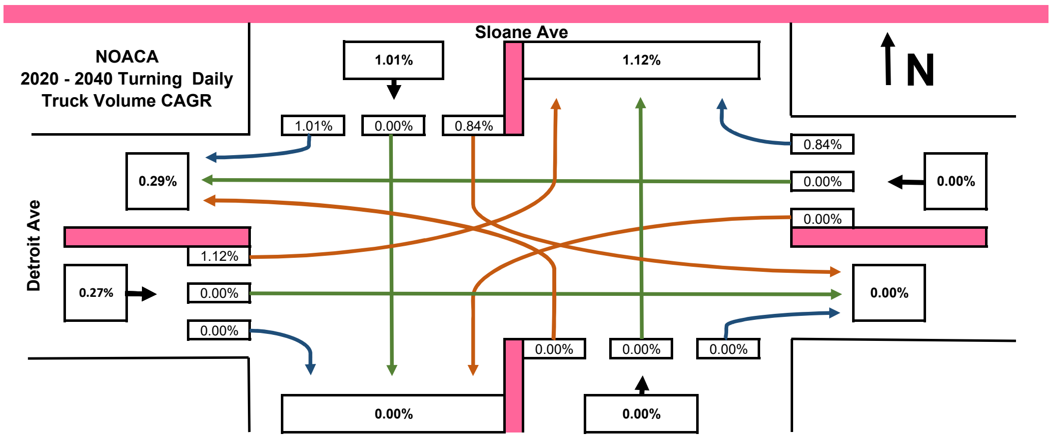
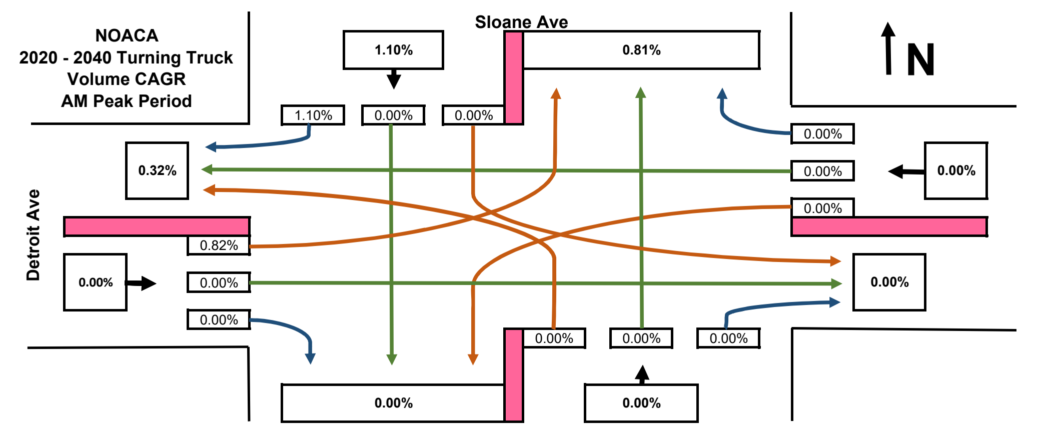
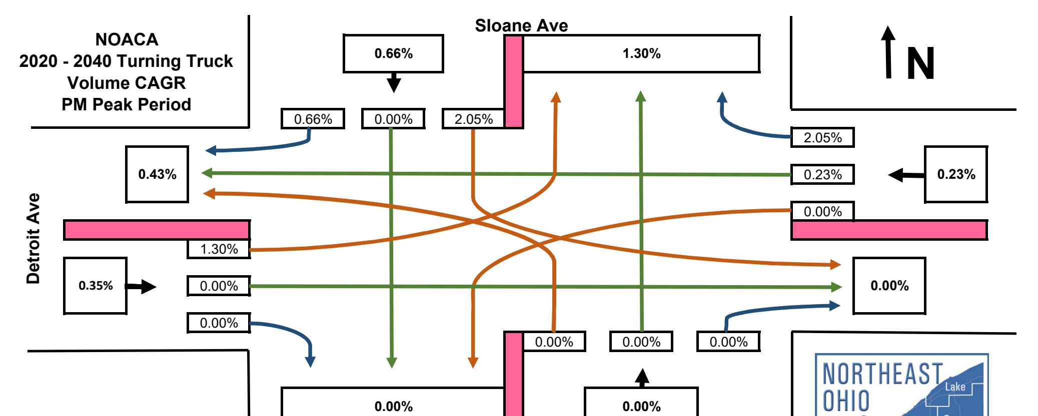
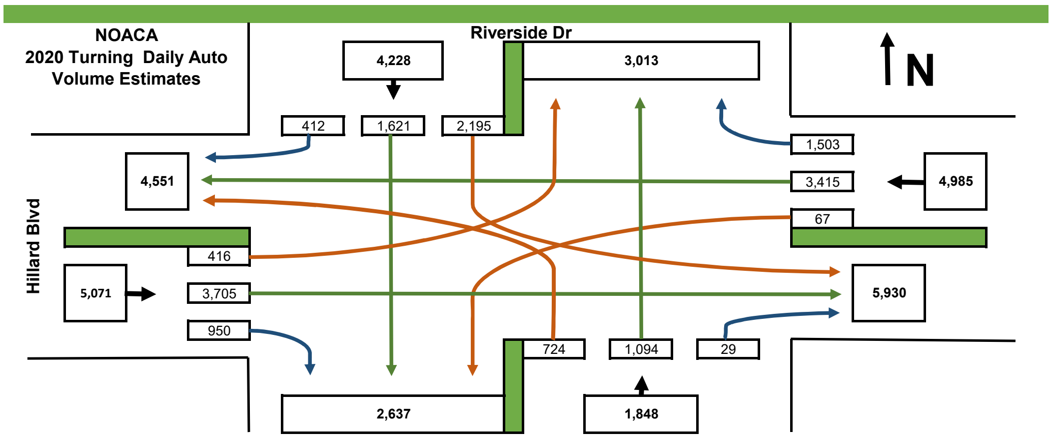
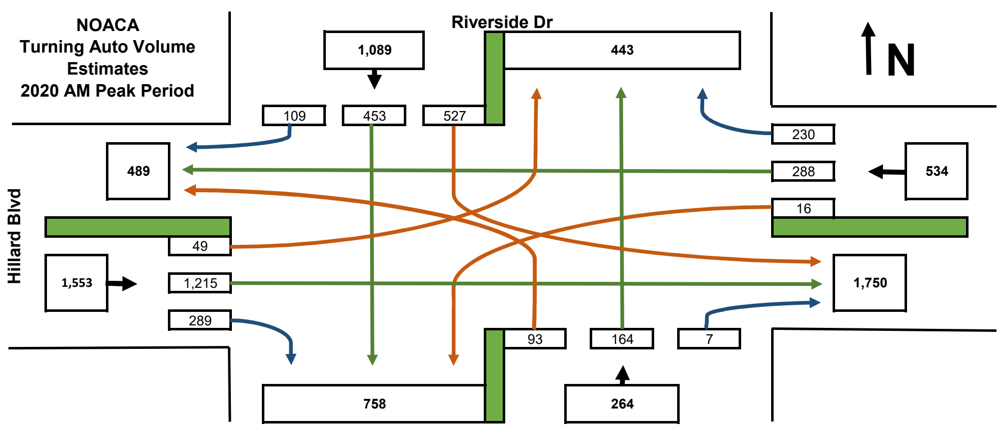
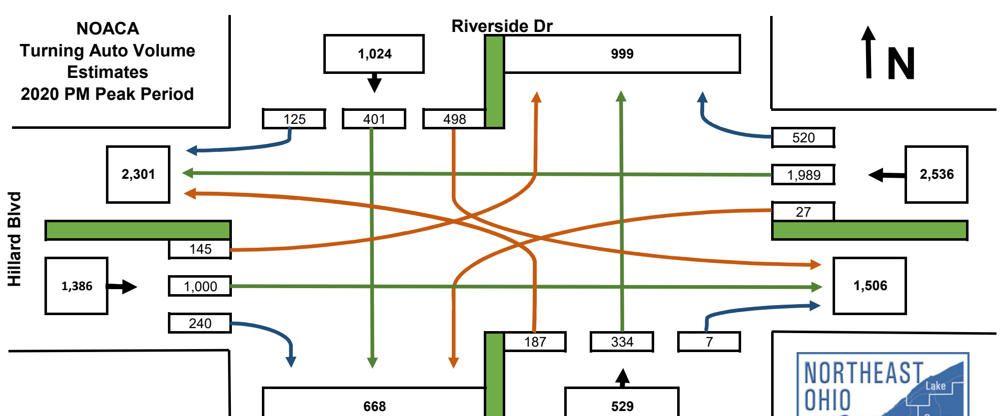

NOACA
2020 - 2040 Turning Daily Truck Volume CAGR
Sloane Ave
Detroit Ave
N
1.01%
1.12%
1.01%
0.00%
0.84%
0.84%
0.00%
0.00%
0.00%
0.29%
1.12%
0.27%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%


NOACA
2020 - 2040 Turning Truck Volume CAGR
AM Peak Period
Sloane Ave
Detroit Ave
N
1.10%
0.81%
1.10%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.32%
0.82%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%


NOACA
2020 - 2040 Turning Truck Volume CAGR
PM Peak Period
Sloane Ave
Detroit Ave
N
0.66%
1.30%
0.66%
0.00%
2.05%
2.05%
0.23%
0.23%
0.00%
0.43%
1.30%
0.35%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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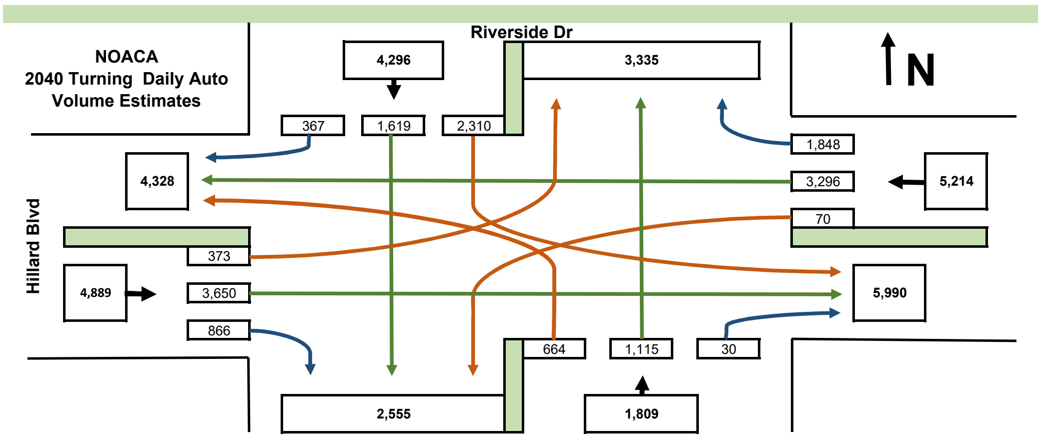
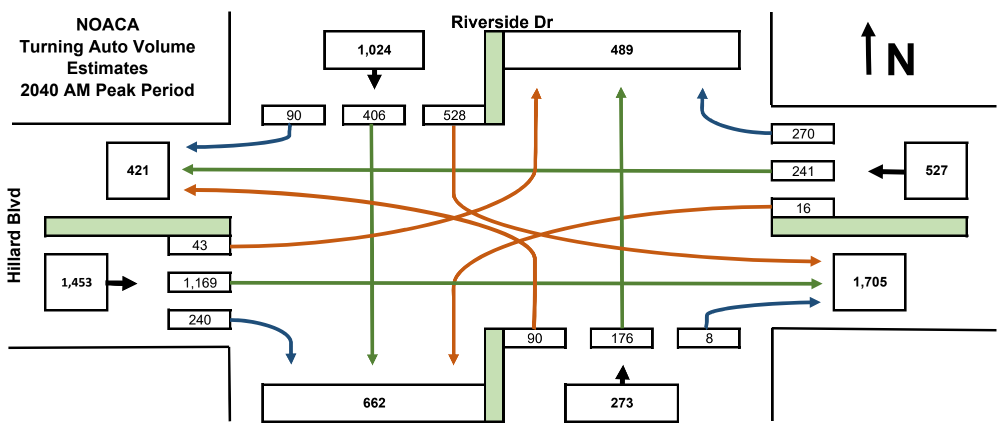
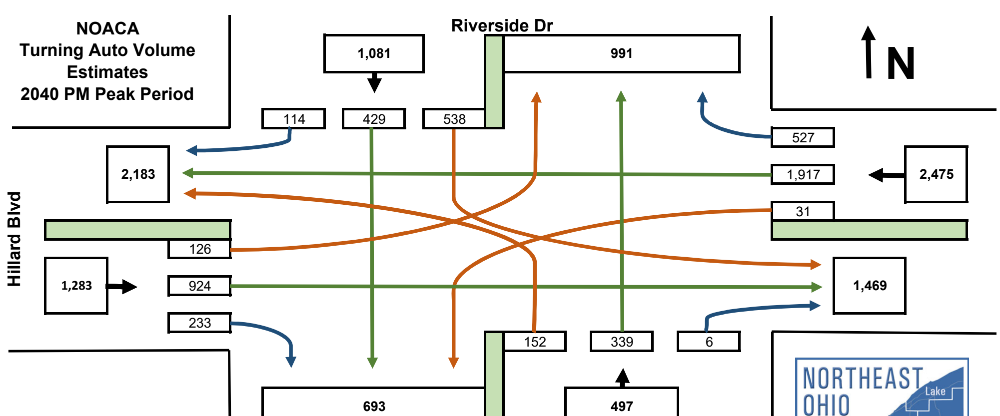
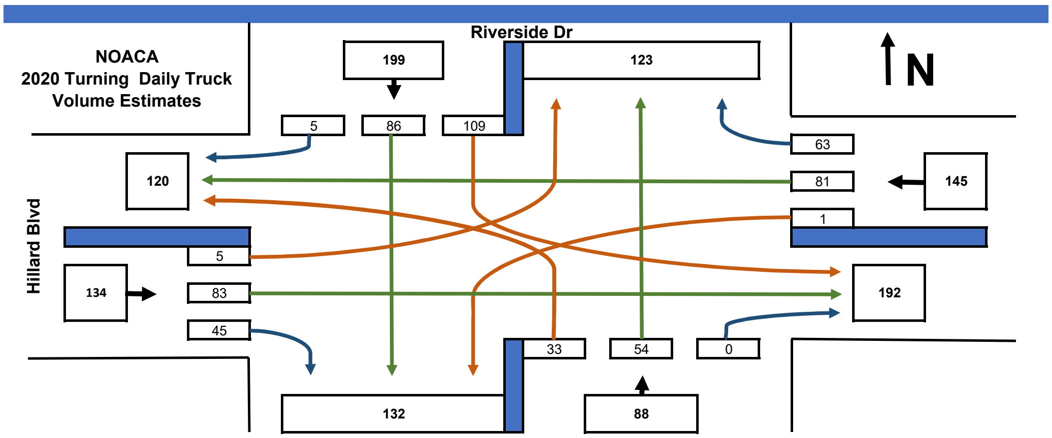
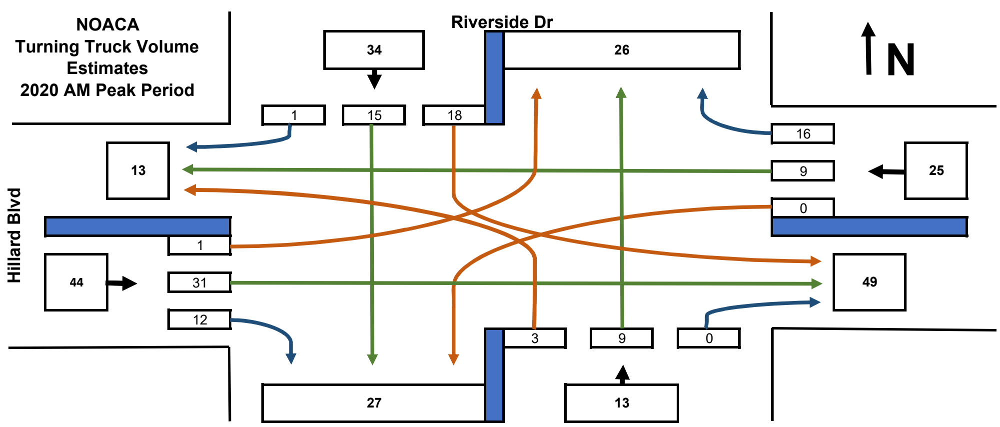
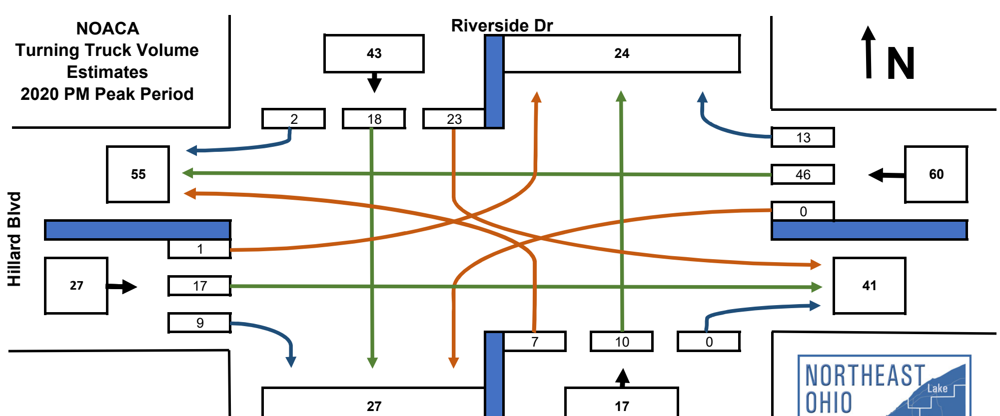

NOACA
2040 Turning Daily Auto
Volume Estimates
Riverside Dr
Hillard Blvd
N
4,296
3,335
367
1,619
2,310
1,848
4,328
3,296
5,214
70
373
4,889
3,650
5,990
866
664
1,115
30
2,555
1,809


NOACA
Turning Auto Volume
Estimates
2040 AM Peak Period
Riverside Dr
Hillard Blvd
N
1,024
489
90
406
528
270
421
241
527
16
43
1,453
1,169
1,705
240
90
176
8
662
273


NOACA
Turning Auto Volume
Estimates
2040 PM Peak Period
Riverside Dr
Hillard Blvd
N
1,081
991
114
429
538
527
2,183
1,917
2,475
31
126
1,283
924
1,469
233
152
339
6
693
497







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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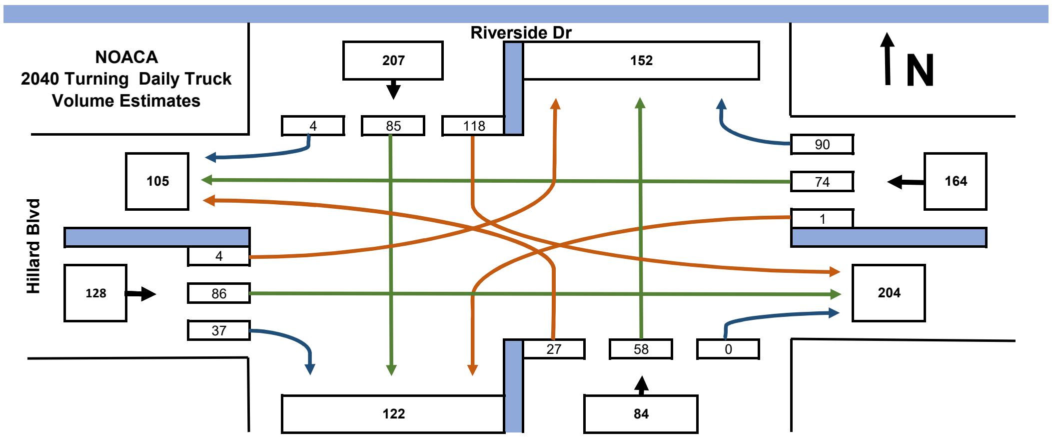
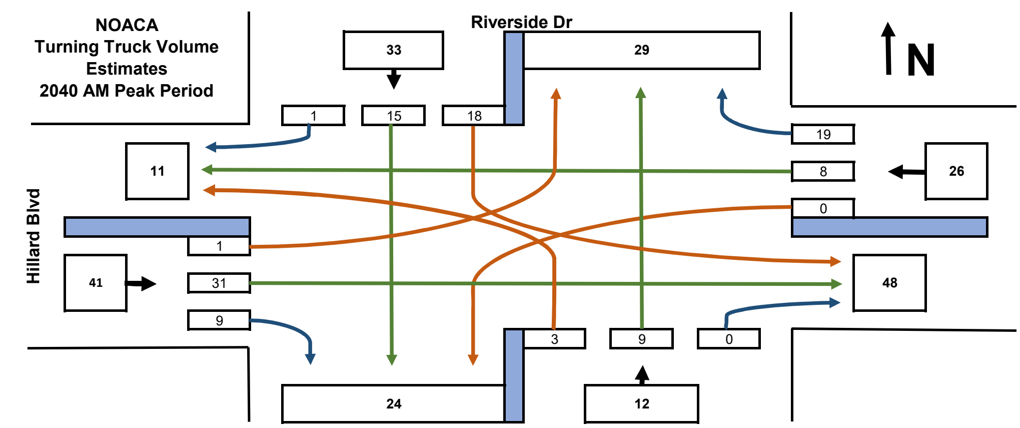
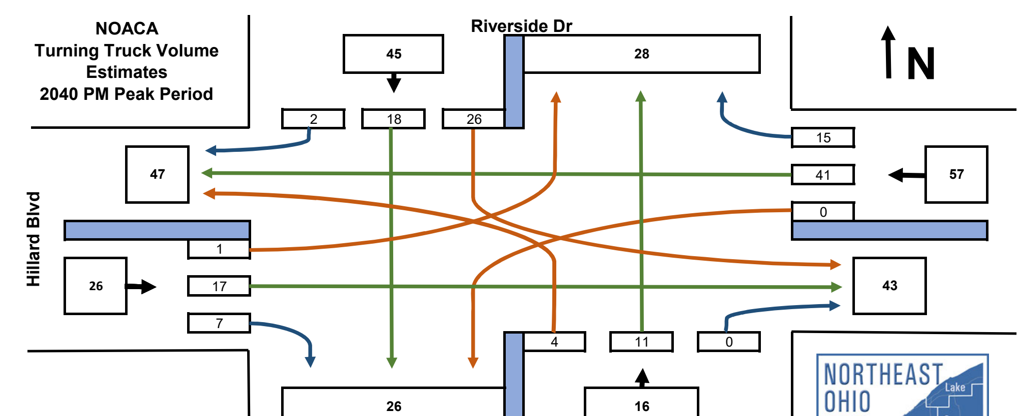
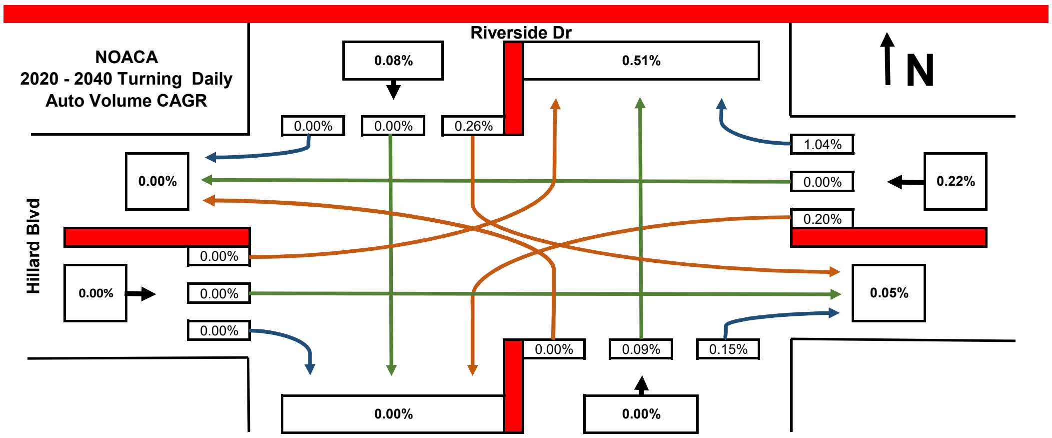
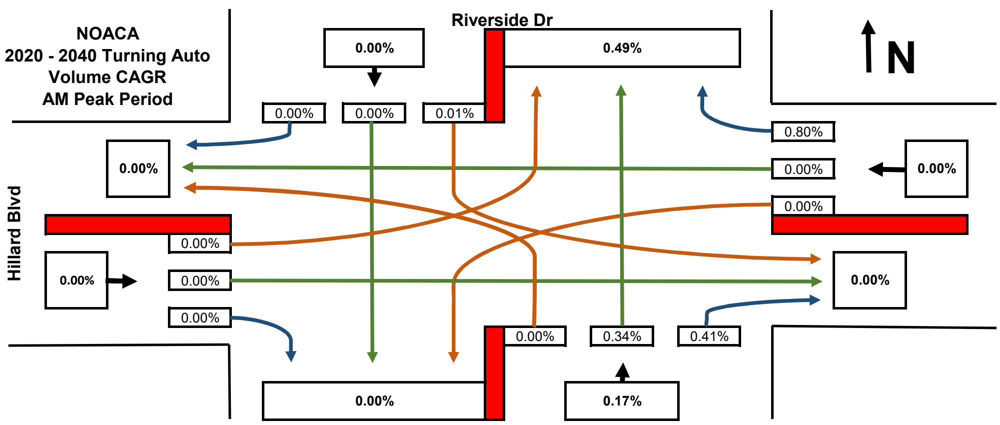
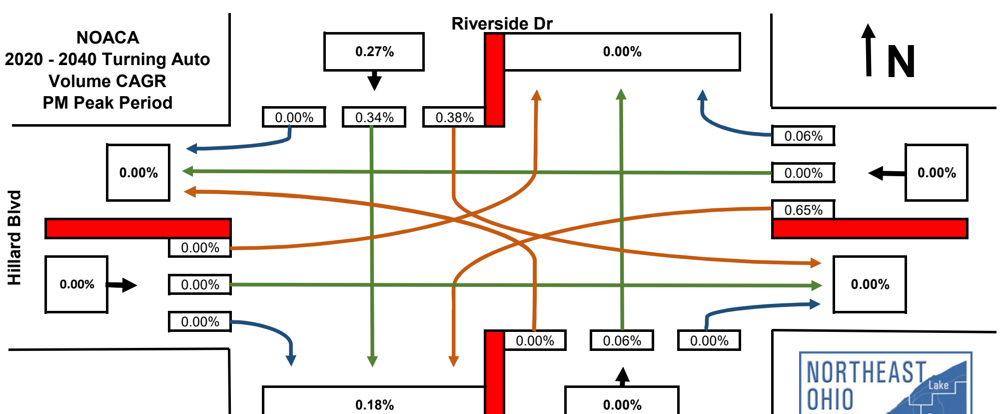

NOACA
2040 Turning Daily Truck
Volume Estimates
Riverside Dr
Hillard Blvd
N
207
152
4
85
118
90
74
1
164
105
4
128
86
37
204
27
58
0
122
84


NOACA
Turning Truck Volume
Estimates
2040 AM Peak Period
Riverside Dr
Hillard Blvd
N
33
29
1
15
18
19
8
0
26
11
1
41
31
9
48
3
9
0
24
12


NOACA
Turning Truck Volume
Estimates
2040 PM Peak Period
Riverside Dr
Hillard Blvd
N
45
28
2
18
26
15
41
0
57
47
1
26
17
7
43
4
11
0
26
16







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
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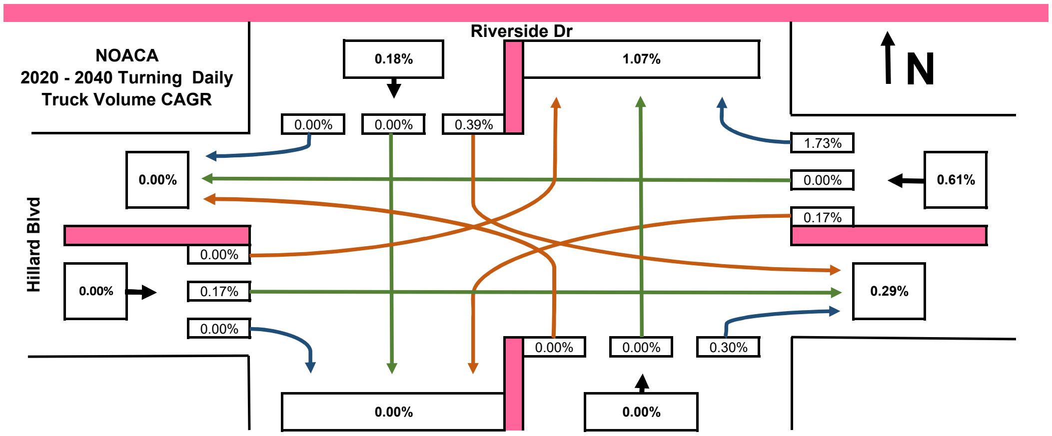
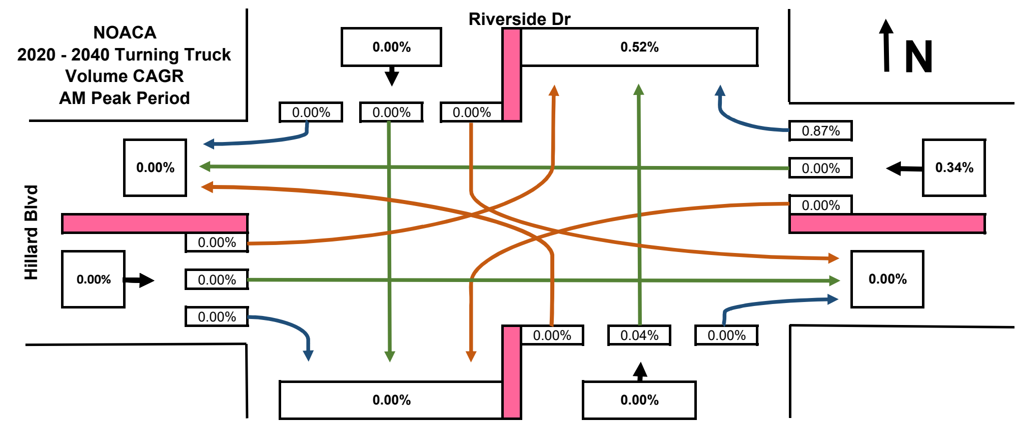
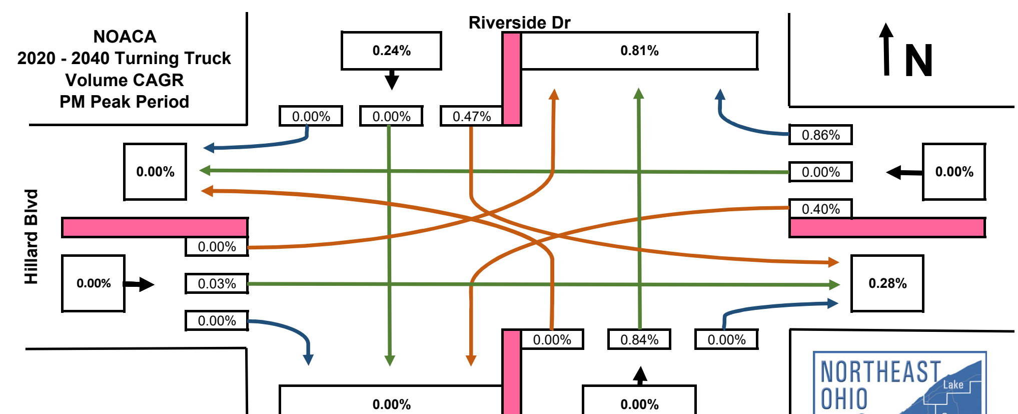
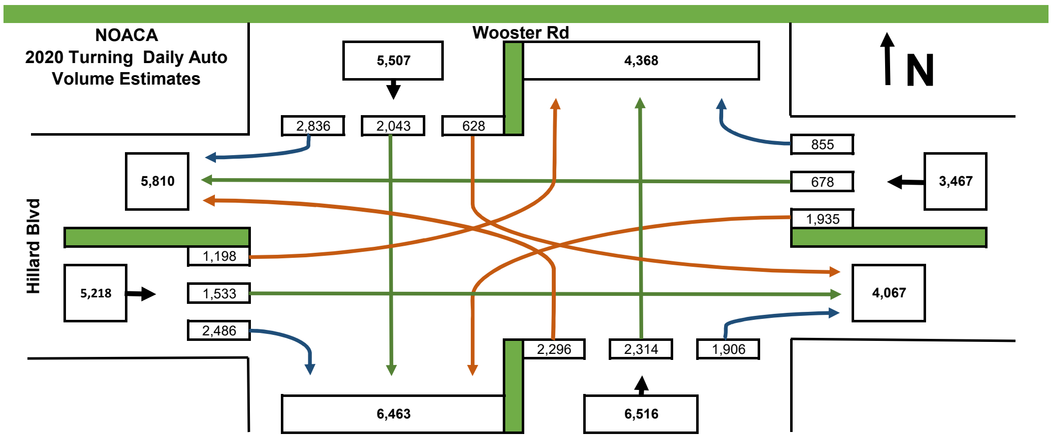
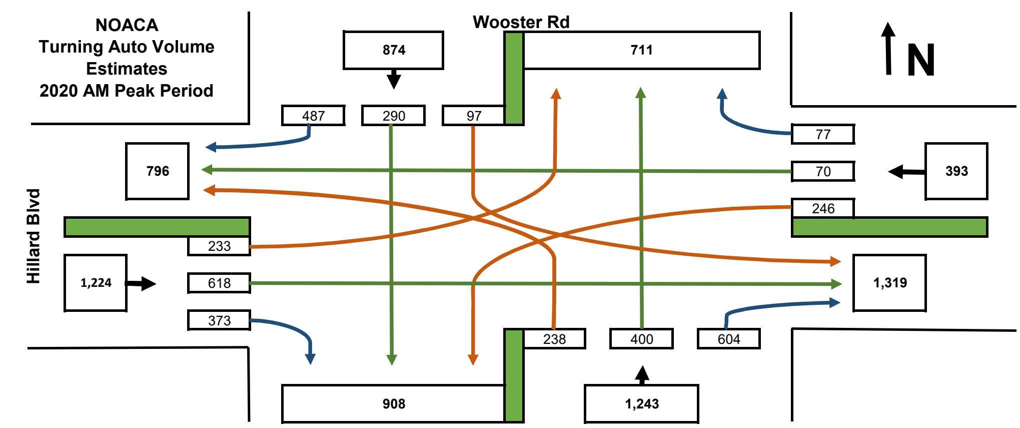
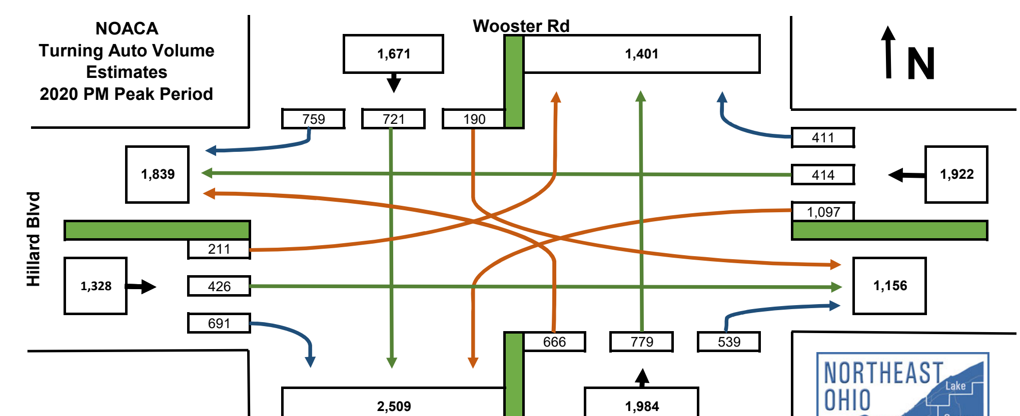

NOACA
2020 - 2040 Turning Daily
Truck Volume CAGR
Riverside Dr
Hillard Blvd
N
0.18%
1.07%
0.00%
0.00%
0.39%
1.73%
0.00%
0.61%
0.17%
0.00%
0.00%
0.00%
0.17%
0.29%
0.00%
0.00%
0.00%
0.30%
0.00%
0.00%

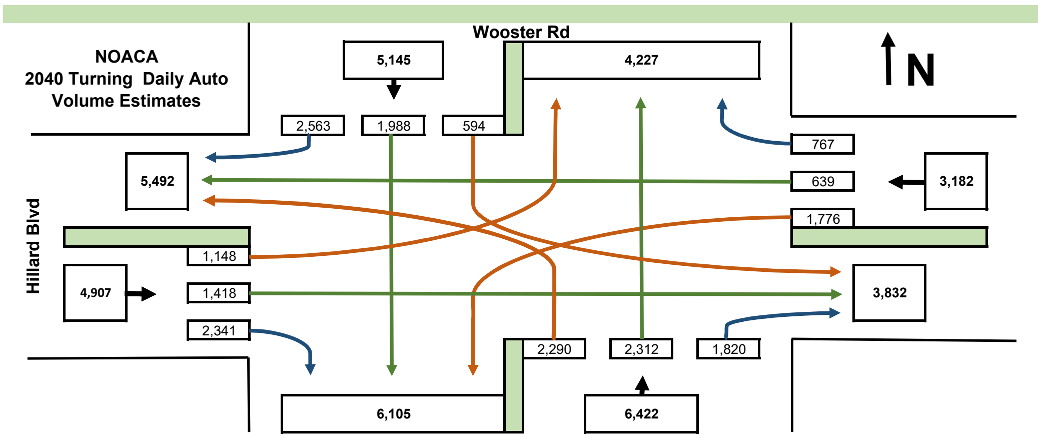

NOACA
2020 - 2040 Turning Truck
Volume CAGR
AM Peak Period
Riverside Dr
Hillard Blvd
N
0.00%
0.52%
0.00%
0.00%
0.00%
0.87%
0.00%
0.00%
0.34%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.04%
0.00%
0.00%
0.00%

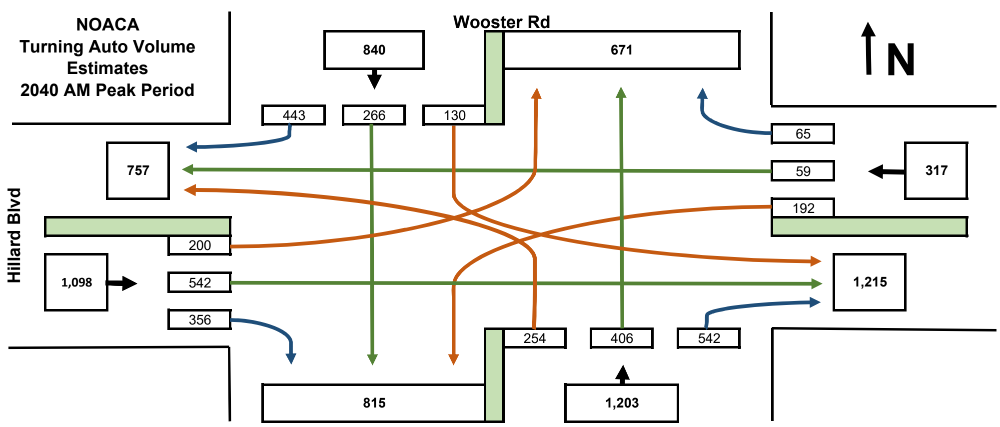

NOACA
2020 - 2040 Turning Truck
Volume CAGR
PM Peak Period
Riverside Dr
Hillard Blvd
N
0.24%
0.81%
0.00%
0.00%
0.47%
0.86%
0.00%
0.00%
0.40%
0.00%
0.00%
0.00%
0.03%
0.28%
0.00%
0.00%
0.84%
0.00%
0.00%
0.00%

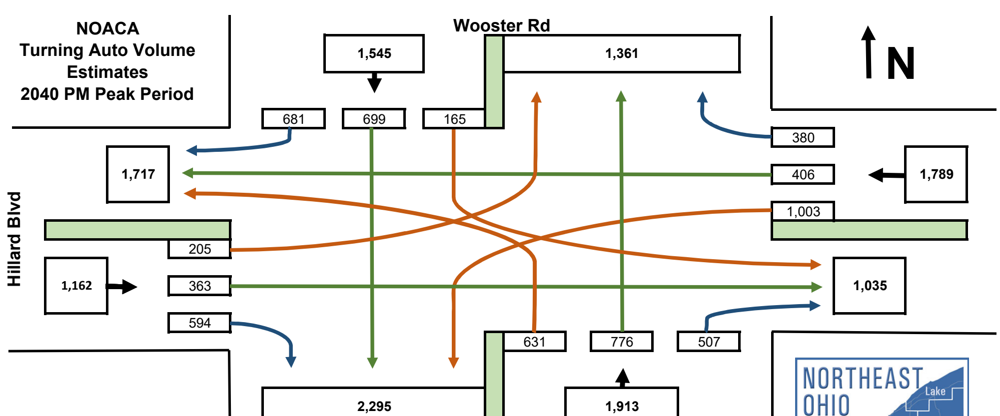

NOACA
2020 Turning Daily Auto
Volume Estimates
Wooster Rd
Hillard Blvd
N
5,507
4,368
2,836
2,043
628
855
678
1,935
3,467
5,810
5,218
1,198
1,533
2,486
4,067
2,296
2,314
1,906
6,463
6,516

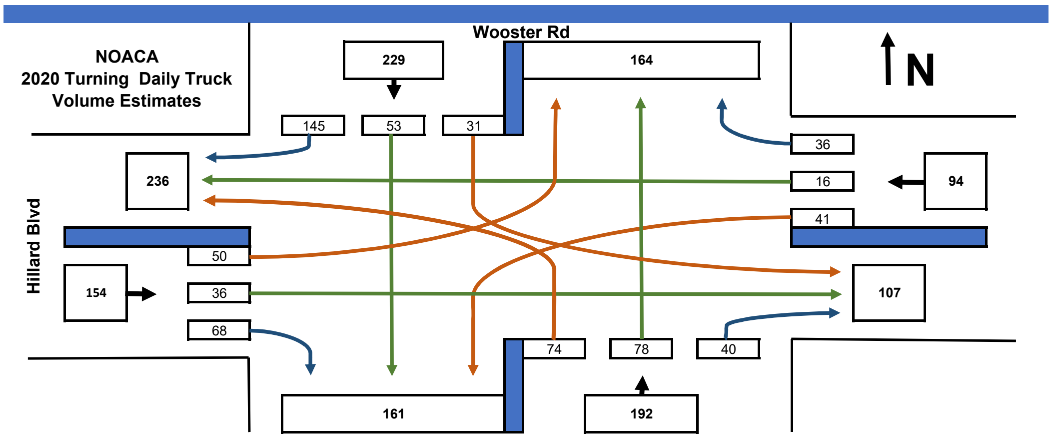

NOACA
Turning Auto Volume
Estimates
2020 AM Peak Period
Wooster Rd
Hillard Blvd
N
874
711
487
290
97
77
70
246
393
796
1,224
233
618
373
1,319
238
400
604
908
1,243

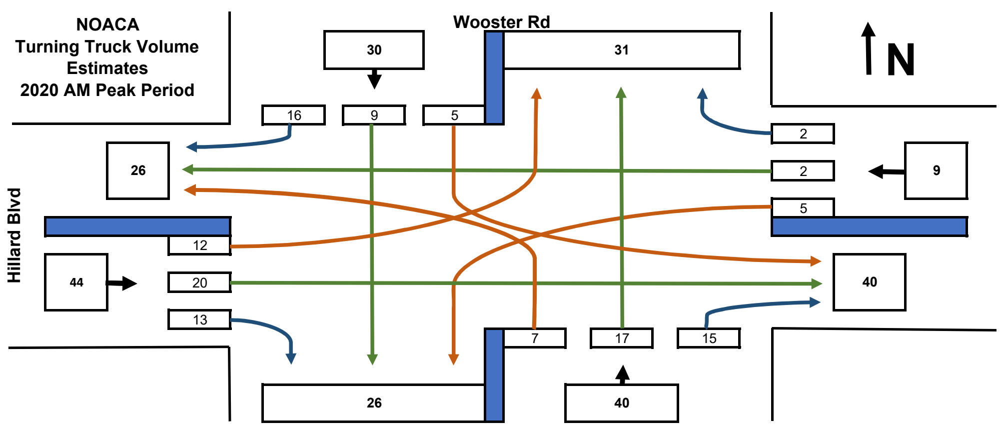

NOACA
Turning Auto Volume
Estimates
2020 PM Peak Period
Wooster Rd
Hillard Blvd
N
1,671
1,401
759
721
190
411
414
1,097
1,922
1,839
1,328
211
426
691
1,156
666
779
539
2,509
1,984

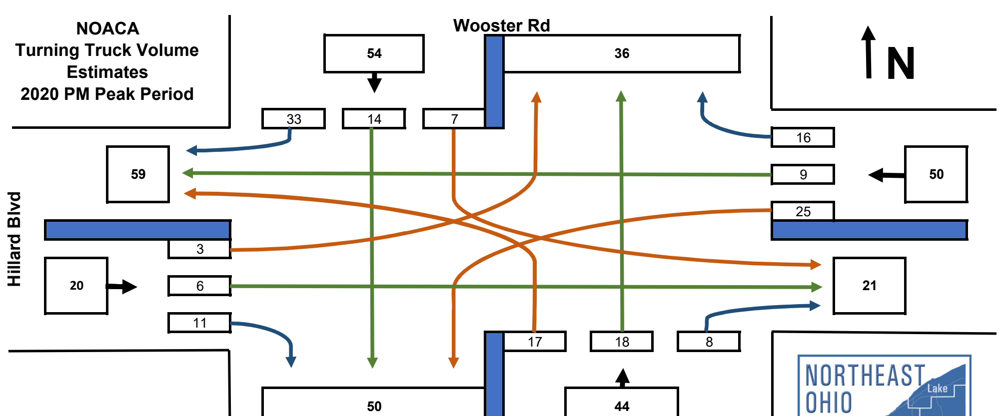

NOACA
2040 Turning Daily Auto
Volume Estimates
Wooster Rd
Hillard Blvd
N
5,145
4,227
2,563
1,988
594
767
639
1,776
3,182
5,492
1,148
4,907
1,418
2,341
3,832
2,290
2,312
1,820
6,105
6,422

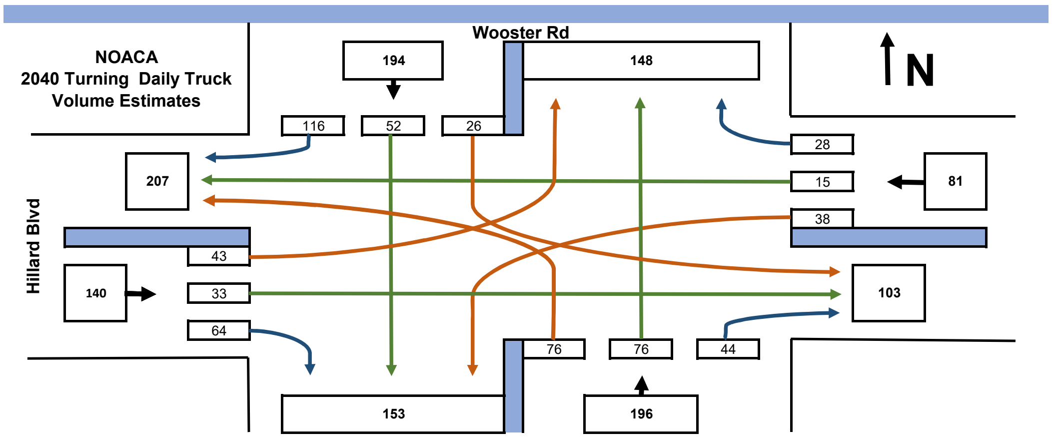

NOACA
Turning Auto Volume
Estimates
2040 AM Peak Period
Wooster Rd
Hillard Blvd
N
840
671
443
266
130
65
59
192
317
757
200
1,098
542
356
1,215
254
406
542
815
1,203

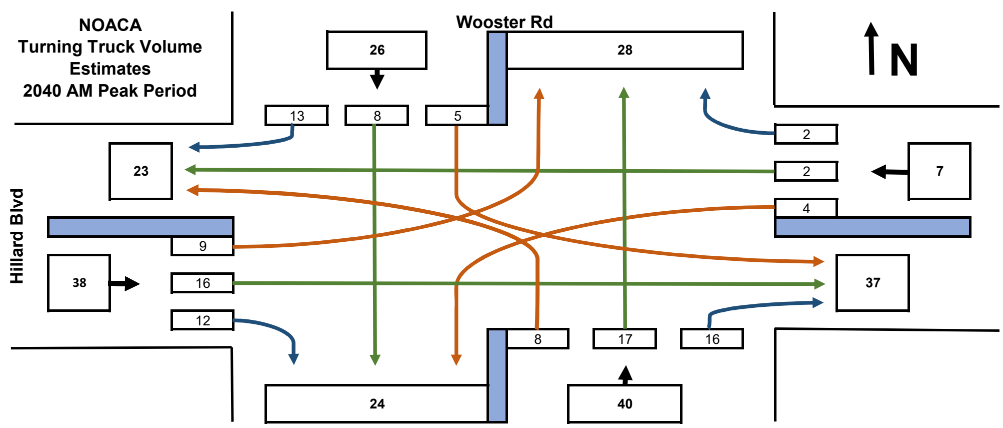

NOACA
Turning Auto Volume
Estimates
2040 PM Peak Period
Wooster Rd
Hillard Blvd
N
1,545
1,361
681
699
165
380
406
1,003
1,789
1,717
205
1,162
363
594
1,035
631
776
507
2,295
1,913

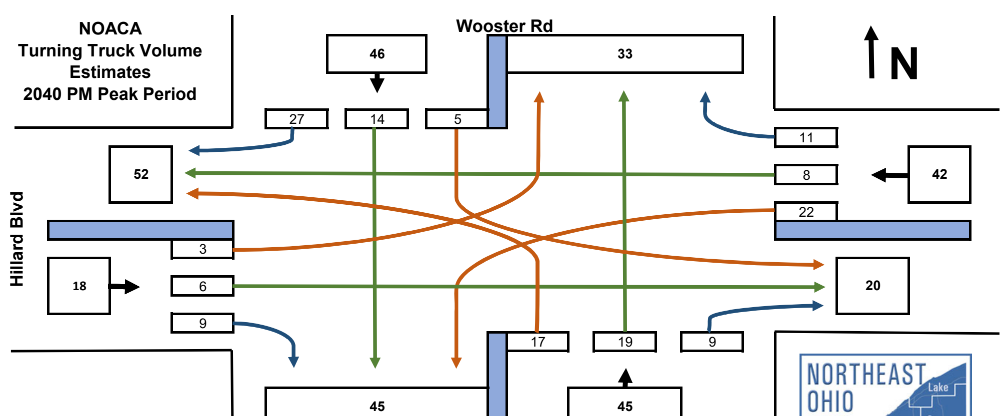

NOACA
2020 Turning Daily Truck
Volume Estimates
Wooster Rd
Hillard Blvd
N
229
164
145
53
31
36
236
16
94
41
50
154
36
107
68
74
78
40
161
192


NOACA
Turning Truck Volume
Estimates
2020 AM Peak Period
Wooster Rd
Hillard Blvd
N
30
31
16
9
5
2
26
2
9
5
12
44
20
40
13
7
17
15
26
40

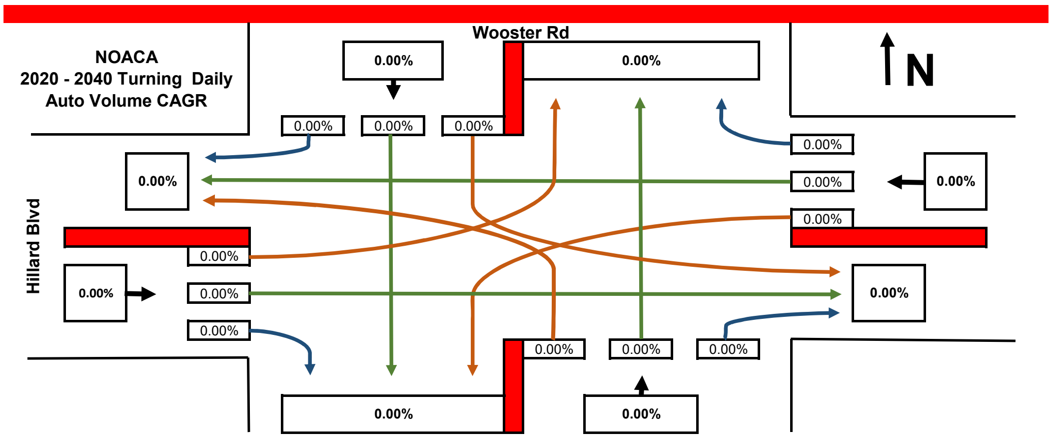

NOACA
Turning Truck Volume
Estimates
2020 PM Peak Period
Wooster Rd
Hillard Blvd
N
54
36
33
14
7
16
59
9
50
25
3
20
6
21
11
17
18
8
50
44

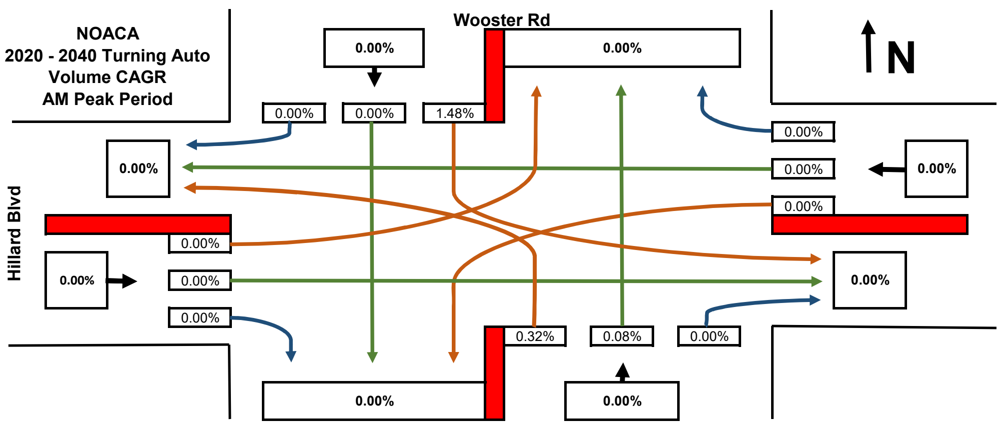


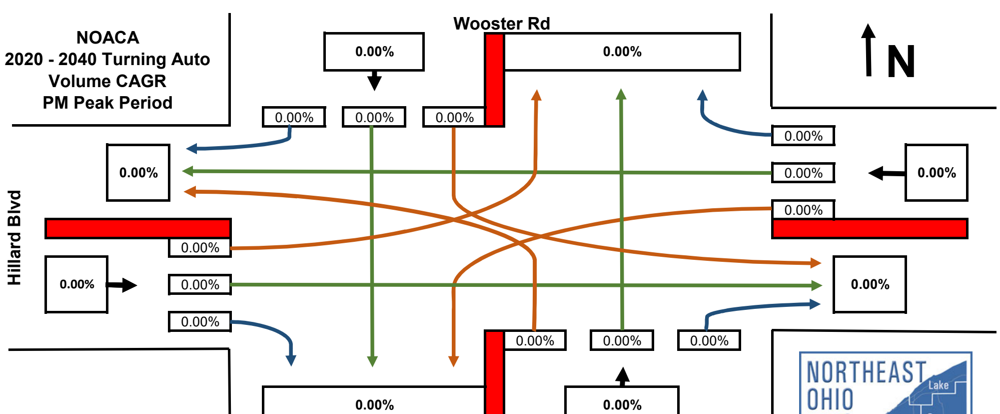




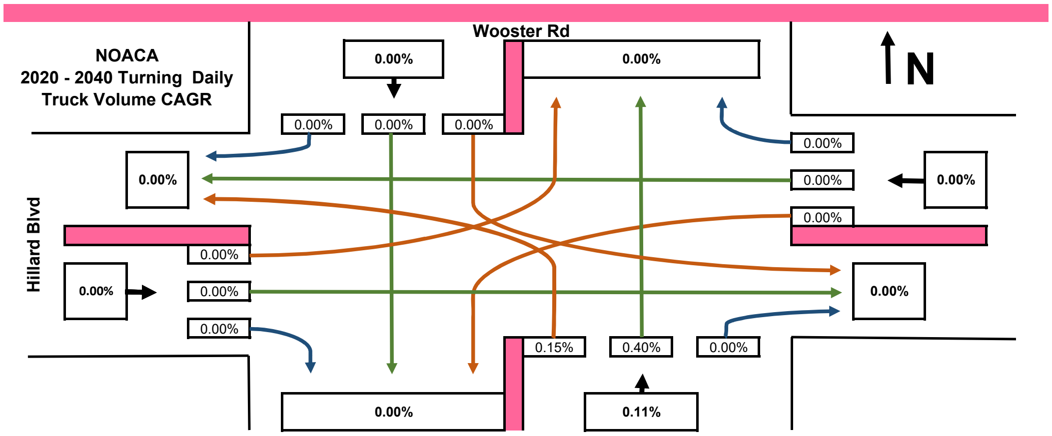
NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
NOACA: Planning For Greater Cleveland

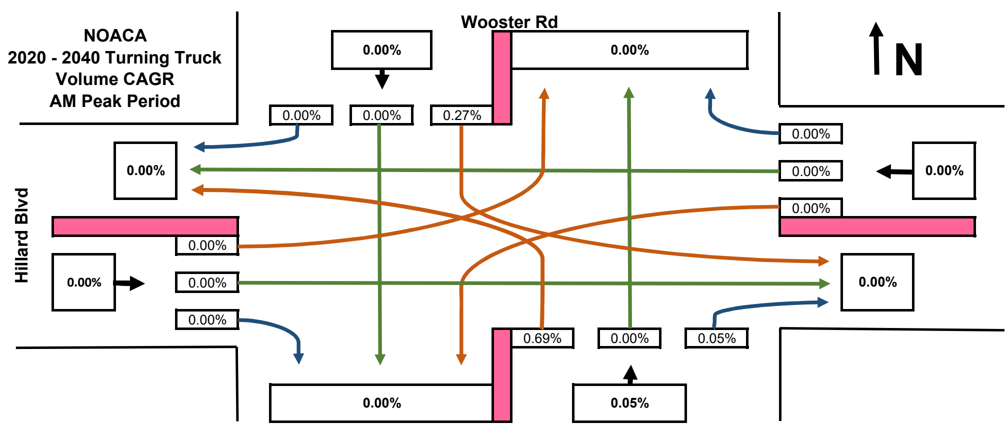


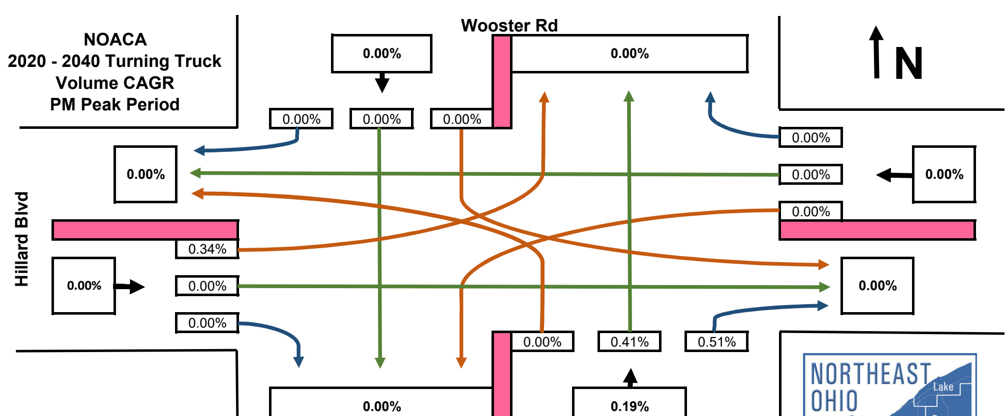


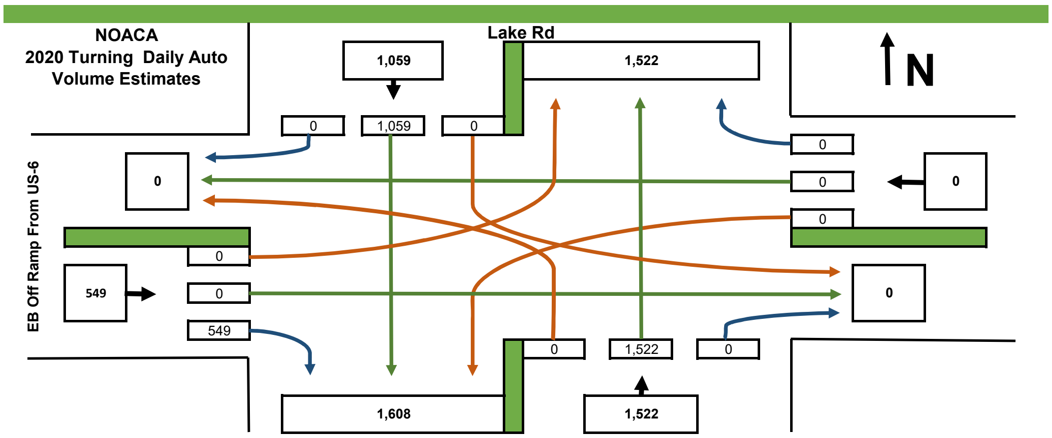


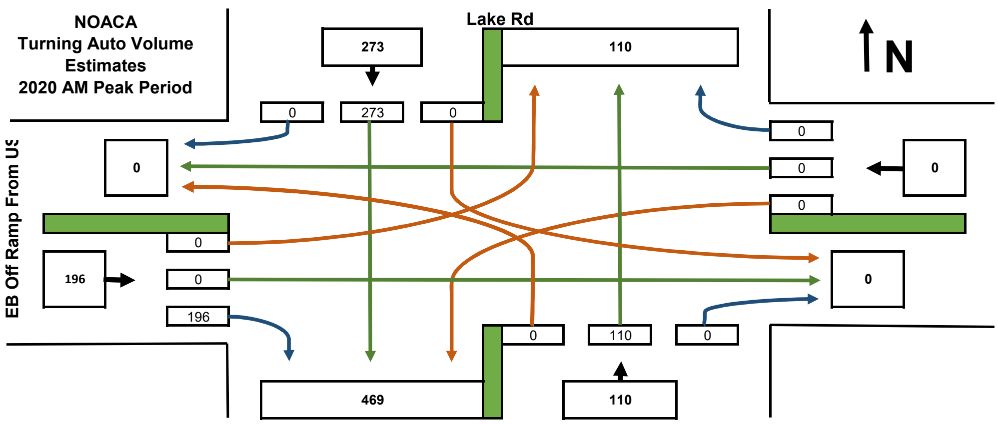
NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
NOACA: Planning For Greater Cleveland

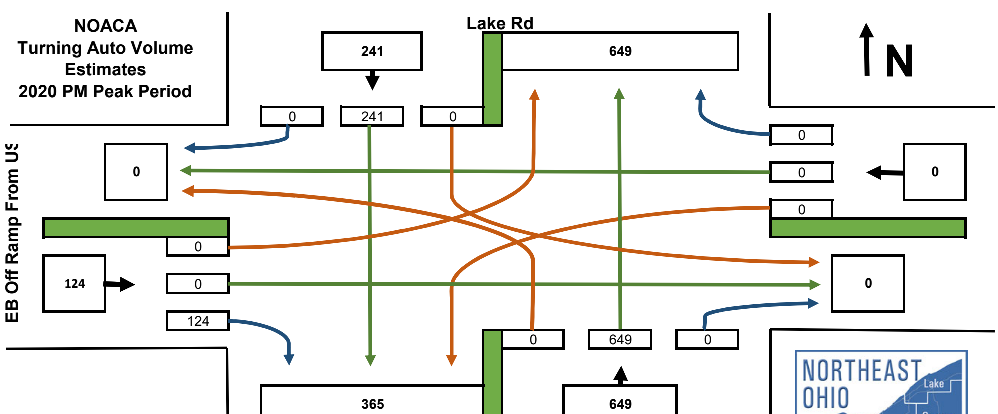

NOACA
2020 - 2040 Turning Daily
Truck Volume CAGR
Wooster Rd
Hillard Blvd
N
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.15%
0.40%
0.00%
0.00%
0.11%

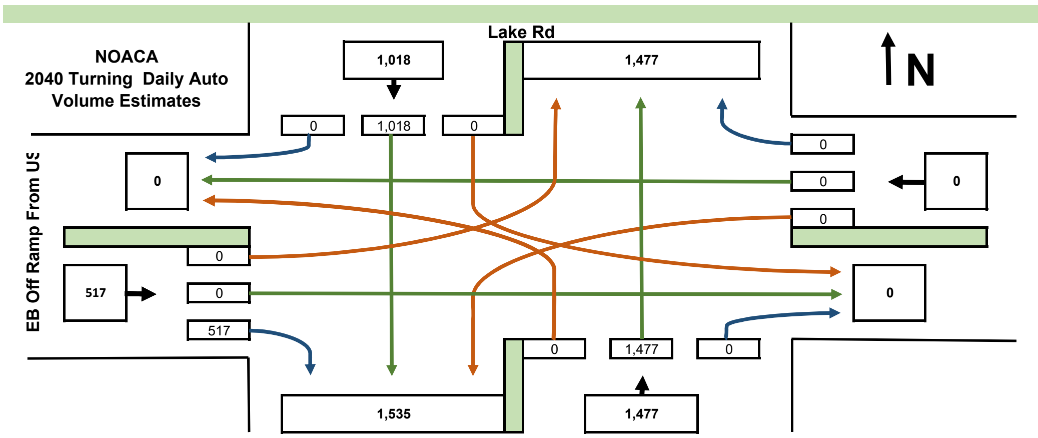

NOACA
2020 - 2040 Turning Truck
Volume CAGR
AM Peak Period
Wooster Rd
Hillard Blvd
N
0.00%
0.00%
0.00%
0.00%
0.27%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.69%
0.00%
0.05%
0.00%
0.05%

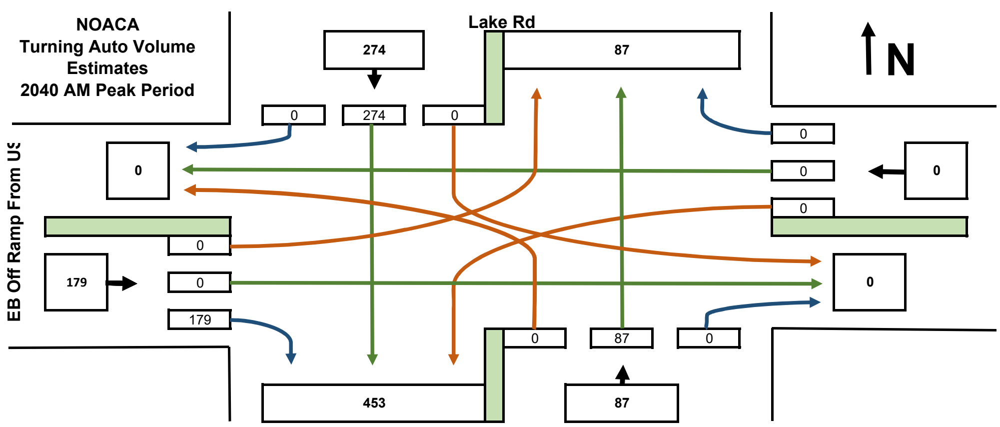

NOACA
2020 - 2040 Turning Truck
Volume CAGR
PM Peak Period
Wooster Rd
Hillard Blvd
N
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.34%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.41%
0.51%
0.00%
0.19%


NOACA
2020 Turning Daily Auto
Volume Estimates
Lake Rd
N
EB Off Ramp From US-6
1,059
1,522
0
1,059
0
0
0
0
0
0
549
0
0
549
0
0
1,522
0
1,608
1,522


NOACA
Turning Auto Volume
Estimates
2020 AM Peak Period
Lake Rd
N
EB Off Ramp From US
273
110
0
273
0
0
0
0
0
0
196
0
0
196
0
0
110
0
469
110


NOACA
Turning Auto Volume
Estimates
2020 PM Peak Period
Lake Rd
N
EB Off Ramp From US
241
649
0
241
0
0
0
0
0
0
124
0
0
124
0
0
649
0
365
649


NOAA
2040 Turning Daily Auto Volume Estimates
Lake Rd
N
EB Off Ramp From US
1,018
1,477
0
1,018
0
0
0
0
0
0
0
517
0
0
517
0
1,477
0
1,535
1,477


NOACA
Turning Auto Volume Estimates
2040 AM Peak Period
Lake Rd
N
EB Off Ramp From US
274
87
0
274
0
0
0
0
0
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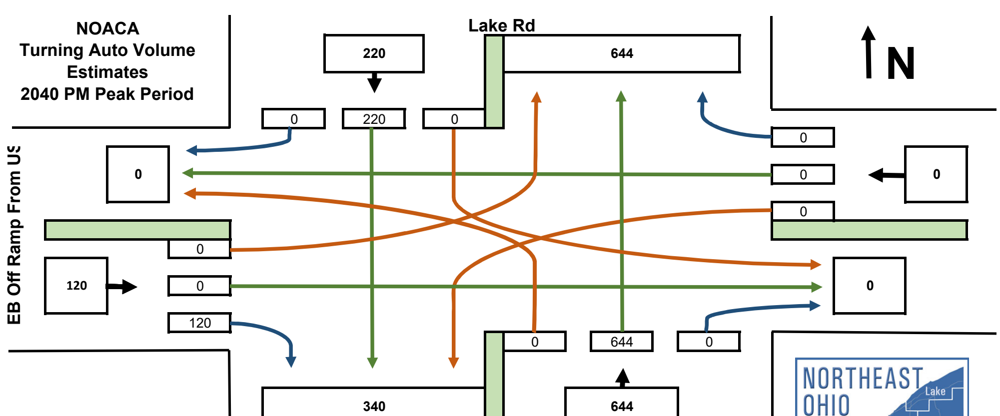
NOACA
Turning Auto Volume Estimates
2040 PM Peak Period
Lake Rd
N
EB Off Ramp From US
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340
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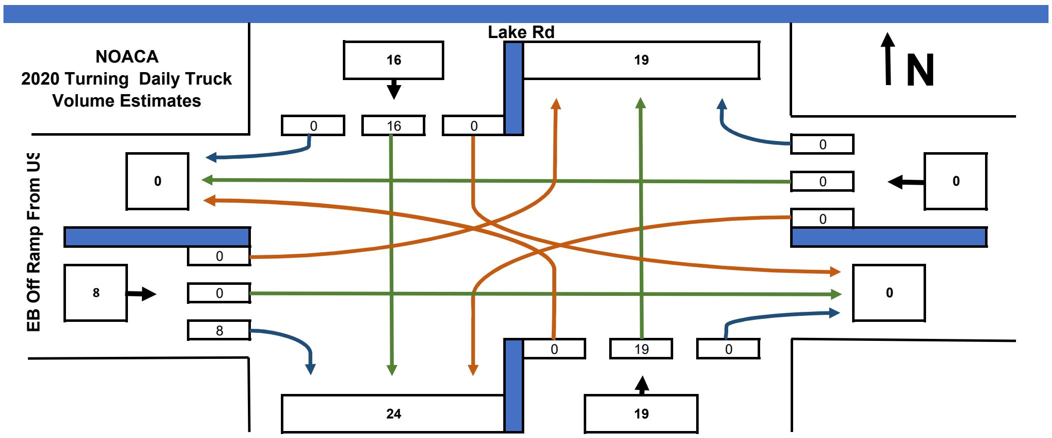
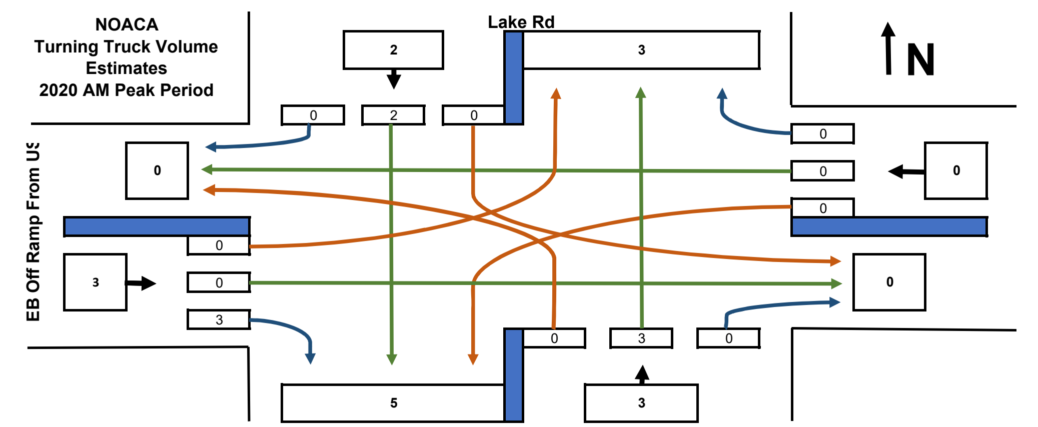
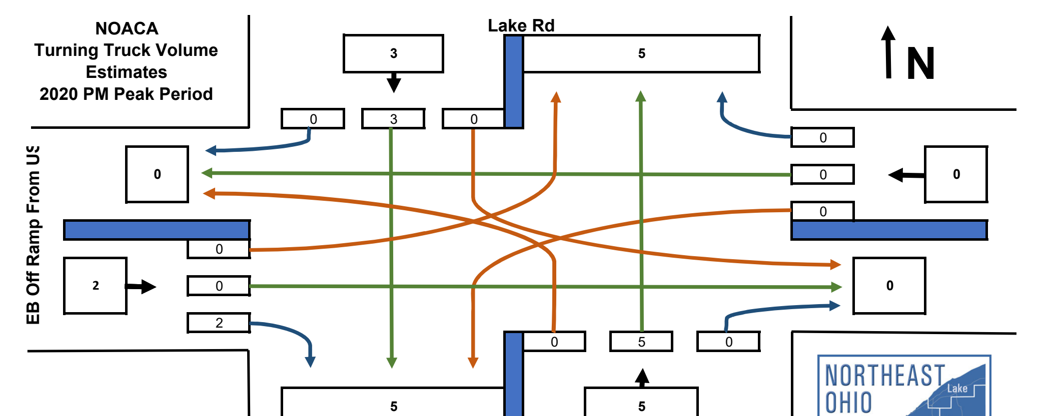
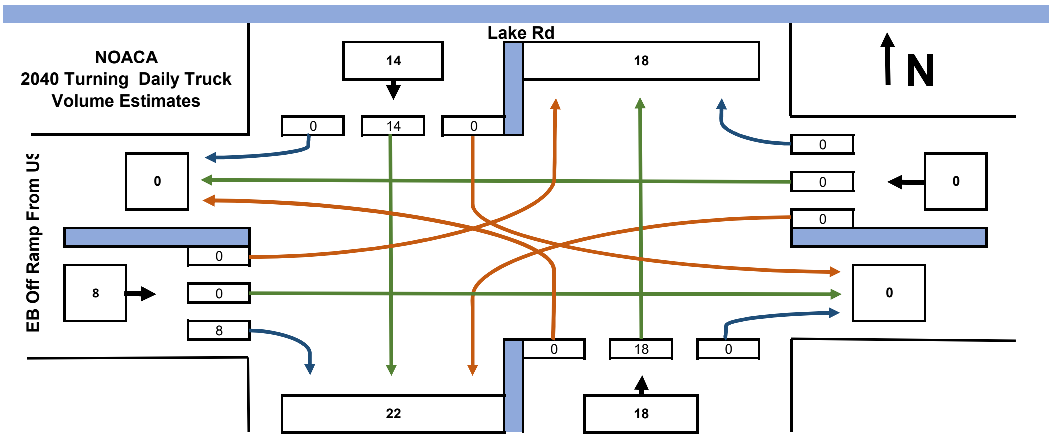
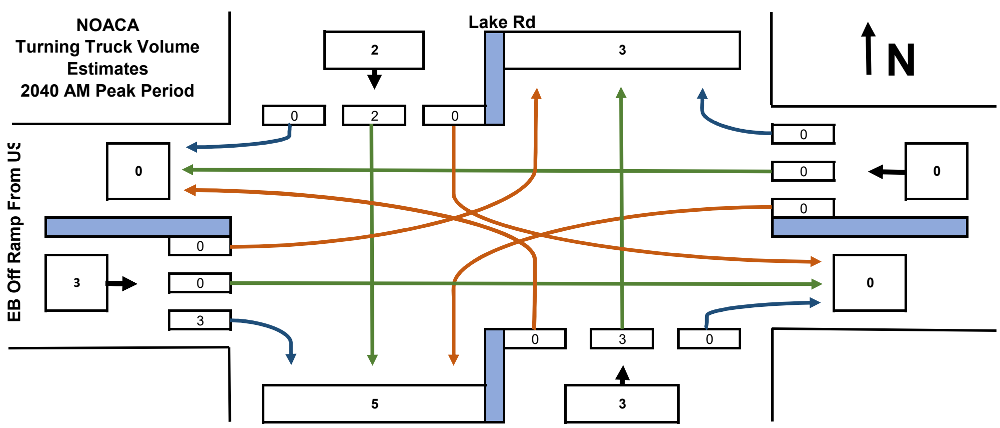


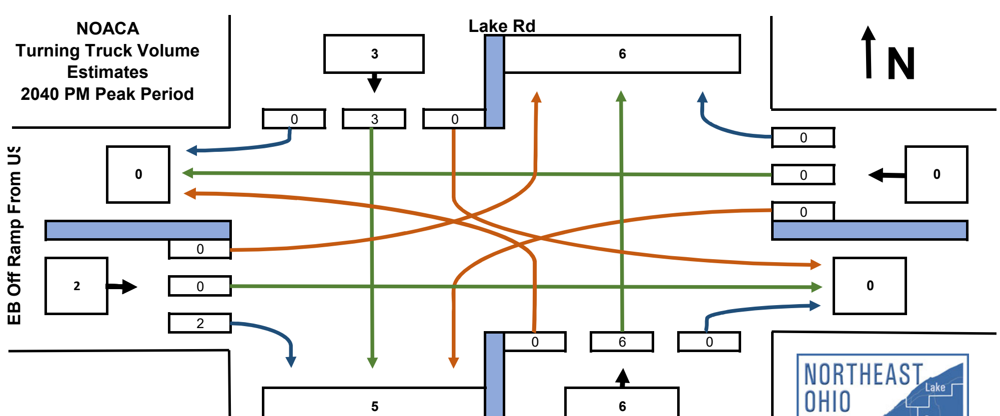




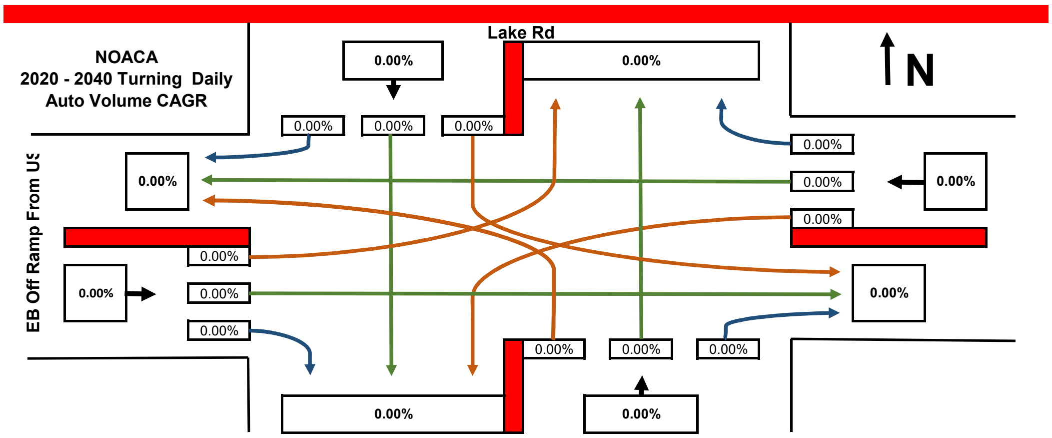
NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
NOACA: Planning For Greater Cleveland

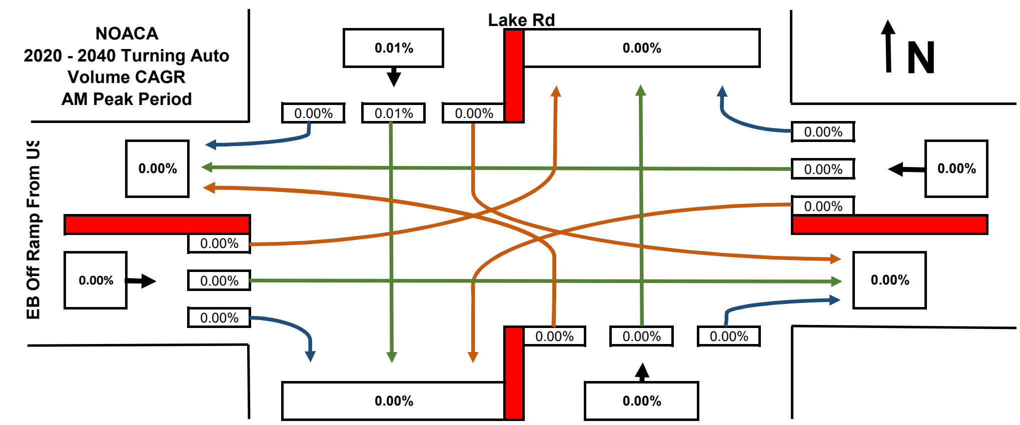


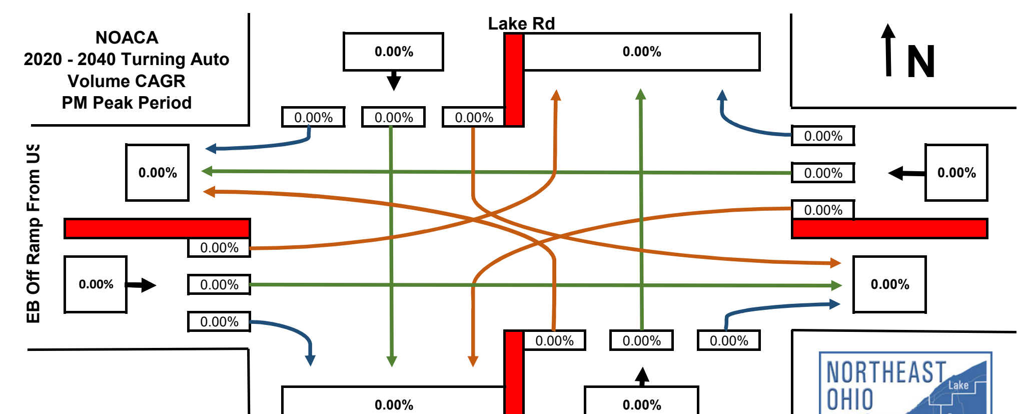




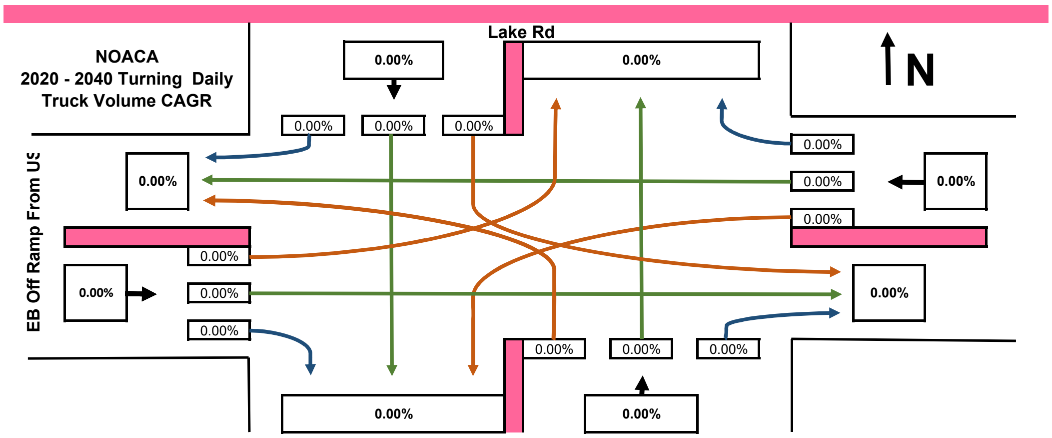
NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
NOACA: Planning For Greater Cleveland

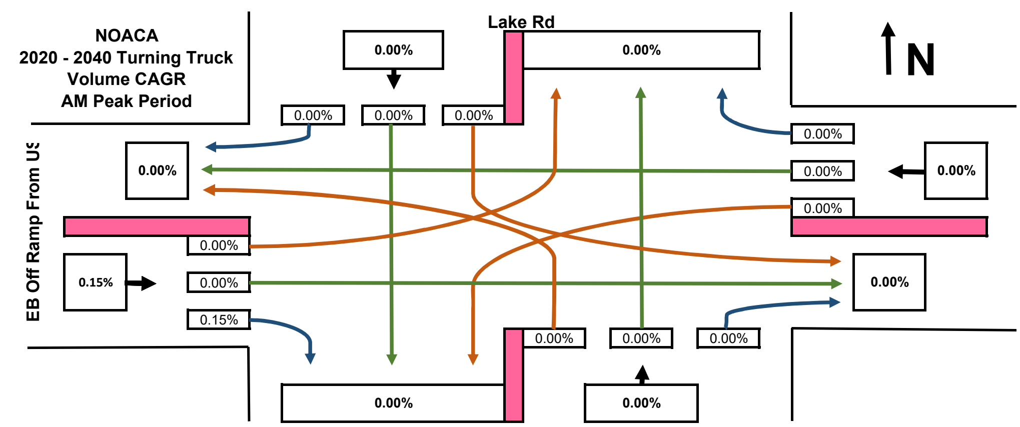


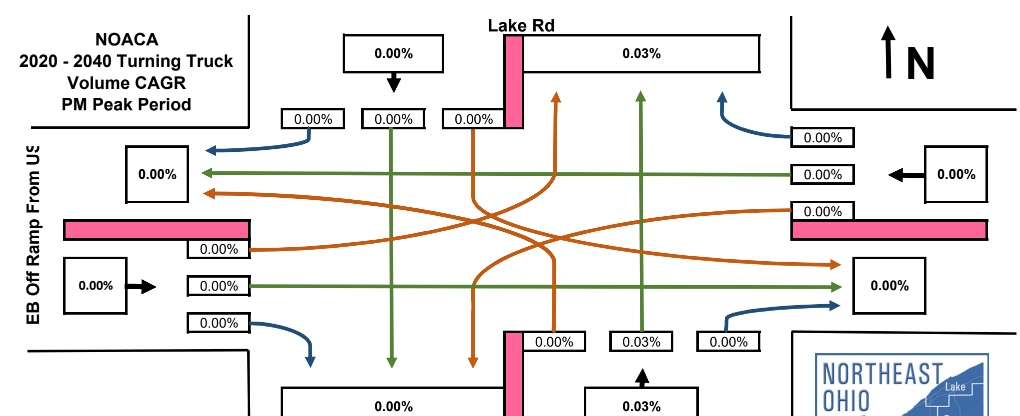




NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
NOACA: Planning For Greater Cleveland







NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
NOACA: Planning For Greater Cleveland

Clifton Boulevard Bridge Counts

Count Year	
ROUTE NAME:	CLIFTON BLVD
DIRECTION:	WB
COUNT YEAR:	2017
CAR - 24 HOUR COUNT:	7,594
CAR - AM PERIOD (6AM-9AM):	953
CAR - MIDDAY PERIOD (9AM-3PM):	2,176
CAR - PM PERIOD (3PM - 7PM):	3,345
CAR - NIGHT PERIOD (7PM - 3AM):	1,027
TRUCK - 24 HOUR COUNT:	67
TRUCK - AM PERIOD (6AM-9AM):	6
TRUCK - MIDDAY PERIOD (9AM-3PM):	14
TRUCK - PM PERIOD (3PM - 7PM):	40
TRUCK - NIGHT PERIOD (7PM - 3AM):	6

Count Year	
ROUTE NAME:	CLIFTON BLVD
DIRECTION:	EB
COUNT YEAR:	2017
CAR - 24 HOUR COUNT:	7,224
CAR - AM PERIOD (6AM-9AM):	2,072
CAR - MIDDAY PERIOD (9AM-3PM):	1,934
CAR - PM PERIOD (3PM - 7PM):	1,943
CAR - NIGHT PERIOD (7PM - 3AM):	1,191
TRUCK - 24 HOUR COUNT:	86
TRUCK - AM PERIOD (6AM-9AM):	56
TRUCK - MIDDAY PERIOD (9AM-3PM):	13
TRUCK - PM PERIOD (3PM - 7PM):	10
TRUCK - NIGHT PERIOD (7PM - 3AM):	6

The detailed count information above was pulled from the NOACA GIS website. Growth rates were calculated utilizing the observed rates of the EB/WB ramps to US-6 at Lake Rd/Beachcliff Blvd (provided by NOACA). This data indicates a negative growth rate, which was revised instead to 0%.

The conversion rates for the AM and PM peak are still assumed to be 2.1 and 2.8 respectively in order to determine the appropriate peak hour volumes.

Car/Truck 2017 ADT - 14,971
Car/Truck 2020 ADT - 14,971
Car/Truck 2040 ADT - 14,971

Car/Truck 2017 AM Peak - 1,014 (EB), 457 (WB)
Car/Truck 2020 AM Peak - 1,014 (EB), 457 (WB)
Car/Truck 2040 AM Peak - 1,014 (EB), 457 (WB)

Car/Truck 2017 PM Peak - 698 (EB), 1,209 (WB)
Car/Truck 2020 PM Peak - 698 (EB), 1,209 (WB)
Car/Truck 2040 PM Peak - 698 (EB), 1,209 (WB)

Detroit Road Bridge Counts

Count Year	
ROUTE NAME:	DETROIT RD
DIRECTION:	WB
COUNT YEAR:	2017
CAR - 24 HOUR COUNT:	6,673
CAR - AM PERIOD (6AM-9AM):	794
CAR - MIDDAY PERIOD (9AM-3PM):	2,440
CAR - PM PERIOD (3PM - 7PM):	2,296
CAR - NIGHT PERIOD (7PM - 3AM):	1,072
TRUCK - 24 HOUR COUNT:	244
TRUCK - AM PERIOD (6AM-9AM):	37
TRUCK - MIDDAY PERIOD (9AM-3PM):	101
TRUCK - PM PERIOD (3PM - 7PM):	71
TRUCK - NIGHT PERIOD (7PM - 3AM):	27

Count Year	
ROUTE NAME:	DETROIT RD
DIRECTION:	EB
COUNT YEAR:	2017
CAR - 24 HOUR COUNT:	7,032
CAR - AM PERIOD (6AM-9AM):	829
CAR - MIDDAY PERIOD (9AM-3PM):	2,458
CAR - PM PERIOD (3PM - 7PM):	2,311
CAR - NIGHT PERIOD (7PM - 3AM):	1,378
TRUCK - 24 HOUR COUNT:	262
TRUCK - AM PERIOD (6AM-9AM):	48
TRUCK - MIDDAY PERIOD (9AM-3PM):	104
TRUCK - PM PERIOD (3PM - 7PM):	76
TRUCK - NIGHT PERIOD (7PM - 3AM):	24

The detailed count information above was pulled from the NOACA GIS website. Growth rates were calculated utilizing the observed rates at the Detroit/Sloane intersection (provided by NOACA). This data indicates a negative growth rate, which was revised instead to 0%.

The conversion rates for the AM and PM peak are still assumed to be 2.1 and 2.8 respectively in order to determine the appropriate peak hour volumes.

Car/Truck 2017 ADT - 14,211
Car/Truck 2020 ADT - 14,211
Car/Truck 2040 ADT - 14,211

Car/Truck 2017 AM Peak - 418 (EB), 396 (WB)
Car/Truck 2020 AM Peak - 418 (EB), 396 (WB)
Car/Truck 2040 AM Peak - 418 (EB), 396 (WB)

Car/Truck 2017 PM Peak - 853 (EB), 846 (WB)
Car/Truck 2020 PM Peak - 853 (EB), 846 (WB)
Car/Truck 2040 PM Peak - 853 (EB), 846 (WB)

APPENDIX B: SYNCHRO AND HCS REPORTS

OHM Advisors®
6001 EUCLID AVENUE SUITE 130
CLEVELAND OHIO 44103
T 216.865.1335
OHM-Advisors.com

HCS7 Two-Lane Highway Report

Project Information

Analyst	Jon Grimm	Date	03/18/2021
Agency	NOACA	Analysis Year	2020/2040
Jurisdiction	Lakewood/Rocky River	Time Period Analyzed	AM Peak
Project Description	Clifton Blvd Bridge	Unit	United States Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	600
Lane Width, ft	14	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1079	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.60
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.63

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	36.5
Speed Slope Coefficient	2.48775	Speed Power Coefficient	0.41674
PF Slope Coefficient	-1.50119	PF Power Coefficient	0.66197
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	25.1
%Improved % Followers	0.0	% Improved Avg Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	600	-	-	34.0

Vehicle Results

Average Speed, mi/h	34.0	Percent Followers, %	79.4
Segment Travel Time, minutes	0.20	Follower Density, followers/mi/ln	25.1
Vehicle LOS	E		

Facility Results

T	Follower Density, followers/mi/ln	LOS
1	25.1	E

 HCS™ Two-Lane Version 7.9 Generated: 03/18/2021 23:07:39

Clifton Rd AM Peak.xuf

HCS7 Two-Lane Highway Report

Project Information

Analyst	Jon Grimm	Date	03/18/2021
Agency	NOACA	Analysis Year	2020/2040
Jurisdiction	Lakewood/Rocky River	Time Period Analyzed	PM Peak
Project Description	Clifton Blvd Bridge	Unit	United States Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	600
Lane Width, ft	14	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1286	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	1.20
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.76

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	36.6
Speed Slope Coefficient	2.49028	Speed Power Coefficient	0.41674
PF Slope Coefficient	-1.50150	PF Power Coefficient	0.66200
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	31.5
%Improved % Followers	0.0	% Improved Avg Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	600	-	-	33.9

Vehicle Results

Average Speed, mi/h	33.9	Percent Followers, %	83.0
Segment Travel Time, minutes	0.20	Follower Density, followers/mi/ln	31.5
Vehicle LOS	E		

Facility Results

T	Follower Density, followers/mi/ln	LOS
1	31.5	E

 HCS™ Two-Lane Version 7.9 Generated: 03/18/2021 23:06:57
Clifton Rd PM Peak.xuf

HCS7 Two-Lane Highway Report

Project Information

Analyst	Jon Grimm	Date	03/18/2021
Agency	NOACA	Analysis Year	2020/2040
Jurisdiction	Lakewood/Rocky River	Time Period Analyzed	AM Peak
Project Description	Detroit Ave Bridge	Unit	United States Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	600
Lane Width, ft	14	Shoulder Width, ft	0
Speed Limit, mi/h	25	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	445	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	5.50
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.26

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	25.0
Speed Slope Coefficient	1.86463	Speed Power Coefficient	0.41674
PF Slope Coefficient	-1.41980	PF Power Coefficient	0.59910
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	10.9
%Improved % Followers	0.0	% Improved Avg Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	600	-	-	23.8

Vehicle Results

Average Speed, mi/h	23.8	Percent Followers, %	58.3
Segment Travel Time, minutes	0.29	Follower Density, followers/mi/ln	10.9
Vehicle LOS	D		

Facility Results

T	Follower Density, followers/mi/ln	LOS
1	10.9	D

 HCS™ Two-Lane Version 7.9 Generated: 03/18/2021 23:06:18
Detroit Ave AM Peak.xuf

HCS7 Two-Lane Highway Report			
Project Information			
Analyst	Jon Grimm	Date	03/18/2021
Agency	NOACA	Analysis Year	2020/2040
Jurisdiction	Lakewood/Rocky River	Time Period Analyzed	PM Peak
Project Description	Detroit Ave Bridge	Unit	United States Customary
Segment 1			
Vehicle Inputs			
Segment Type	Passing Constrained	Length, ft	600
Lane Width, ft	14	Shoulder Width, ft	0
Speed Limit, mi/h	25	Access Point Density, pts/mi	0.0
Demand and Capacity			
Directional Demand Flow Rate, veh/h	907	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	3.20
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.53
Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	25.1
Speed Slope Coefficient	1.86879	Speed Power Coefficient	0.41674
PF Slope Coefficient	-1.42105	PF Power Coefficient	0.59927
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	28.7
%Improved % Followers	0.0	% Improved Avg Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	600	-	-	23.4

Vehicle Results

Average Speed, mi/h	23.4	Percent Followers, %	73.8
Segment Travel Time, minutes	0.29	Follower Density, followers/mi/ln	28.7
Vehicle LOS	E		

Facility Results

T	Follower Density, followers/mi/ln	LOS
1	28.7	E

 HCS™ Two-Lane Version 7.9 Generated: 03/18/2021 23:05:10
Detroit Ave PM Peak.xuf

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	661	41	38	193	16	96
Future Volume (vph)	661	41	38	193	16	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.91	0.91	0.97	1.00	1.00	0.88
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4658	0	3204	1739	1636	2576
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4658	0	3204	1739	1636	2576
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	16					104
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	718	45	41	210	17	104
Shared Lane Traffic (%)						
Lane Group Flow (vph)	763	0	41	210	17	104
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Prot	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Detector Phase	2		1	6	4	1

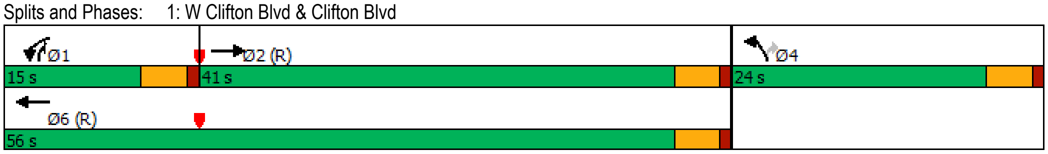
Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 10/27/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	41.0		15.0	56.0	24.0	15.0
Total Split (%)	51.3%		18.8%	70.0%	30.0%	18.8%
Maximum Green (s)	36.5		10.5	51.5	19.5	10.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	53.5		6.5	64.6	6.4	17.5
Actuated g/C Ratio	0.67		0.08	0.81	0.08	0.22
v/c Ratio	0.24		0.16	0.15	0.13	0.16
Control Delay	5.5		35.2	2.1	35.8	6.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	5.5		35.2	2.1	35.8	6.1
LOS	A		D	A	D	A
Approach Delay	5.5			7.5	10.3	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.24
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 27.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



Community Confluence 10/23/2020 2020 AM - No Build
JWG
Synchro 10 Report
Page 2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	594	144	8	142	118	46	83	4	260	223	53
Future Volume (vph)	24	594	144	8	142	118	46	83	4	260	223	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.932			0.994			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1869	3630	0	1834	3418	0	1851	1937	0	1869	1911	0
Flt Permitted	0.575			0.241			0.502			0.497		
Satd. Flow (perm)	1131	3630	0	465	3418	0	978	1937	0	978	1911	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	26	646	157	9	154	128	50	90	4	283	242	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	803	0	9	282	0	50	94	0	283	300	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	

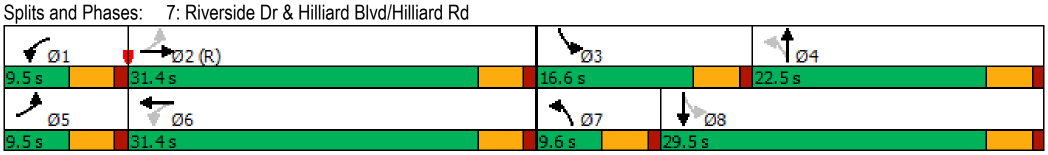
Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 10/27/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.5	31.4		9.5	31.4		9.6	22.5		16.6	29.5	
Total Split (%)	11.9%	39.3%		11.9%	39.3%		12.0%	28.1%		20.8%	36.9%	
Maximum Green (s)	5.0	26.9		5.0	26.9		5.1	18.0		12.1	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	38.3	32.4		37.9	32.2		17.3	11.2		28.4	17.7	
Actuated g/C Ratio	0.48	0.40		0.47	0.40		0.22	0.14		0.36	0.22	
v/c Ratio	0.04	0.55		0.03	0.21		0.18	0.35		0.58	0.71	
Control Delay	10.9	21.0		11.1	17.3		17.8	33.3		24.0	37.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.9	21.0		11.1	17.3		17.8	33.3		24.0	37.7	
LOS	B	C		B	B		B	C		C	D	
Approach Delay		20.7			17.1			27.9			31.0	
Approach LOS		C			B			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 23.9 Intersection LOS: C
Intersection Capacity Utilization 51.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



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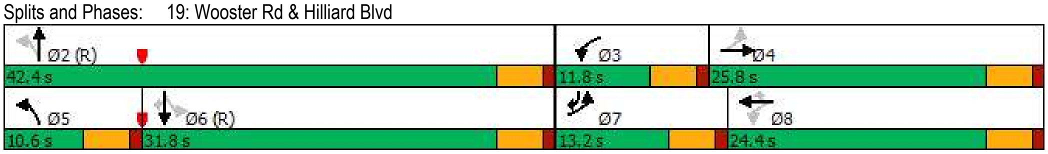
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	304	184	120	35	38	117	199	295	49	143	240
Future Volume (vph)	117	304	184	120	35	38	117	199	295	49	143	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	16	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943				0.850		0.910				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3164	0	1711	3421	1794	1694	1623	0	1694	1783	1516
Flt Permitted	0.723			0.290			0.556			0.458		
Satd. Flow (perm)	1277	3164	0	522	3421	1794	991	1623	0	817	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						143		127				261
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	127	330	200	130	38	41	127	216	321	53	155	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	530	0	130	38	41	127	537	0	53	155	261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd 11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8		8	2			6		6
Detector Phase	7	4		3	8	8	5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		22.5	22.5	9.5
Total Split (s)	13.2	25.8		11.8	24.4	24.4	10.6	42.4		31.8	31.8	13.2
Total Split (%)	16.5%	32.3%		14.8%	30.5%	30.5%	13.3%	53.0%		39.8%	39.8%	16.5%
Maximum Green (s)	8.7	21.3		7.3	19.9	19.9	6.1	37.9		27.3	27.3	8.7
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min	Min	Min	C-Min		C-Min	C-Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0		0		0	0	
Act Effct Green (s)	27.0	18.4		26.6	18.2	18.2	39.7	39.7		27.4	27.4	40.5
Actuated g/C Ratio	0.34	0.23		0.33	0.23	0.23	0.50	0.50		0.34	0.34	0.51
v/c Ratio	0.27	0.73		0.44	0.05	0.08	0.23	0.62		0.19	0.25	0.29
Control Delay	16.8	34.6		20.1	23.1	0.3	13.2	15.4		22.8	21.8	2.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	16.8	34.6		20.1	23.1	0.3	13.2	15.4		22.8	21.8	2.6
LOS	B	C		C	C	A	B	B		C	C	A
Approach Delay		31.2			16.8			15.0			11.2	
Approach LOS		C			B			B			B	

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 19.6 Intersection LOS: B
Intersection Capacity Utilization 68.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



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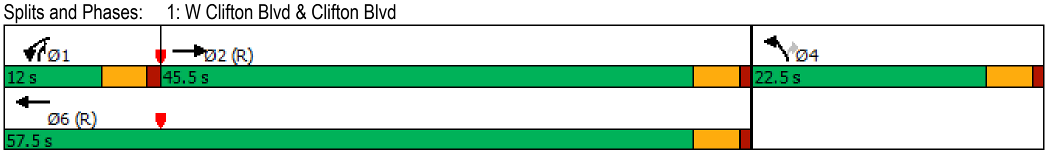
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	334	35	128	880	38	52
Future Volume (vph)	334	35	128	880	38	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.91	0.91	0.97	1.00	1.00	0.88
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4634	0	3204	1739	1636	2576
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4634	0	3204	1739	1636	2576
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	32					57
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	363	38	139	957	41	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	401	0	139	957	41	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Prot	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 10/27/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	45.5		12.0	57.5	22.5	12.0
Total Split (%)	56.9%		15.0%	71.9%	28.1%	15.0%
Maximum Green (s)	41.0		7.5	53.0	18.0	7.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	50.2		8.8	63.5	7.5	20.8
Actuated g/C Ratio	0.63		0.11	0.79	0.09	0.26
v/c Ratio	0.14		0.39	0.69	0.27	0.08
Control Delay	6.2		36.0	7.5	37.3	6.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	6.2		36.0	7.5	37.3	6.3
LOS	A		D	A	D	A
Approach Delay	6.2			11.1	19.3	
Approach LOS	A			B	B	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 58.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



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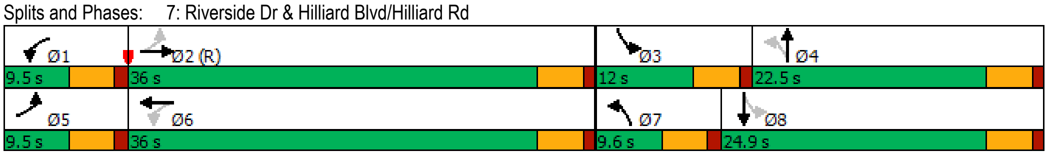
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	364	89	10	727	191	70	123	3	187	150	46
Future Volume (vph)	53	364	89	10	727	191	70	123	3	187	150	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970			0.969			0.997			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1869	3626	0	1834	3554	0	1851	1943	0	1869	1899	0
Flt Permitted	0.170			0.440			0.550			0.483		
Satd. Flow (perm)	334	3626	0	849	3554	0	1072	1943	0	950	1899	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	58	396	97	11	790	208	76	134	3	203	163	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	493	0	11	998	0	76	137	0	203	213	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	

Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 10/27/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.5	36.0		9.5	36.0		9.6	22.5		12.0	24.9	
Total Split (%)	11.9%	45.0%		11.9%	45.0%		12.0%	28.1%		15.0%	31.1%	
Maximum Green (s)	5.0	31.5		5.0	31.5		5.1	18.0		7.5	20.4	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	42.0	35.8		41.0	35.3		17.6	11.6		23.3	14.4	
Actuated g/C Ratio	0.52	0.45		0.51	0.44		0.22	0.14		0.29	0.18	
v/c Ratio	0.20	0.30		0.02	0.64		0.26	0.49		0.54	0.62	
Control Delay	10.2	15.5		8.8	20.4		21.2	36.4		26.5	37.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.2	15.5		8.8	20.4		21.2	36.4		26.5	37.9	
LOS	B	B		A	C		C	D		C	D	
Approach Delay		14.9			20.3			31.0			32.3	
Approach LOS		B			C			C			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 22.3	Intersection LOS: C
Intersection Capacity Utilization 62.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	155	251	401	152	153	244	285	196	71	263	283
Future Volume (vph)	77	155	251	401	152	153	244	285	196	71	263	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	16	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.907				0.850		0.939				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3103	0	1711	3421	1794	1711	1691	0	1694	1783	1516
Flt Permitted	0.648			0.265			0.300			0.460		
Satd. Flow (perm)	1167	3103	0	477	3421	1794	540	1691	0	820	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						166		53				308
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	84	168	273	436	165	166	265	310	213	77	286	308
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	441	0	436	165	166	265	523	0	77	286	308
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd

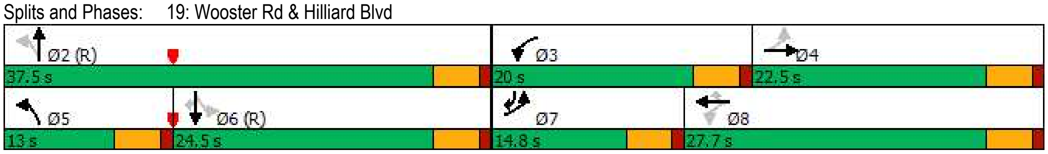
11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8		8	2			6		6
Detector Phase	7	4		3	8	8	5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		22.5	22.5	9.5
Total Split (s)	14.8	22.5		20.0	27.7	27.7	13.0	37.5		24.5	24.5	14.8
Total Split (%)	18.5%	28.1%		25.0%	34.6%	34.6%	16.3%	46.9%		30.6%	30.6%	18.5%
Maximum Green (s)	10.3	18.0		15.5	23.2	23.2	8.5	33.0		20.0	20.0	10.3
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min	Min	Min	C-Min		C-Min	C-Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0		0		0	0	
Act Effct Green (s)	23.5	15.8		37.6	25.5	25.5	33.4	33.4		19.2	19.2	31.3
Actuated g/C Ratio	0.29	0.20		0.47	0.32	0.32	0.42	0.42		0.24	0.24	0.39
v/c Ratio	0.21	0.90dr		0.89	0.15	0.24	0.72	0.71		0.39	0.67	0.39
Control Delay	14.0	36.9		39.3	20.2	4.7	30.8	24.0		32.7	36.5	3.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	14.0	36.9		39.3	20.2	4.7	30.8	24.0		32.7	36.5	3.5
LOS	B	D		D	C	A	C	C		C	D	A
Approach Delay		33.3			27.7			26.3			20.9	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 26.7 Intersection LOS: C
Intersection Capacity Utilization 80.7% ICU Level of Service D
Analysis Period (min) 15
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



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Synchro 10 Report
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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	610	36	31	171	16	92
Future Volume (vph)	610	36	31	171	16	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.91	0.91	0.97	1.00	1.00	0.88
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4663	0	3204	1739	1636	2576
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4663	0	3204	1739	1636	2576
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	15					100
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	663	39	34	186	17	100
Shared Lane Traffic (%)						
Lane Group Flow (vph)	702	0	34	186	17	100
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Prot	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Detector Phase	2		1	6	4	1

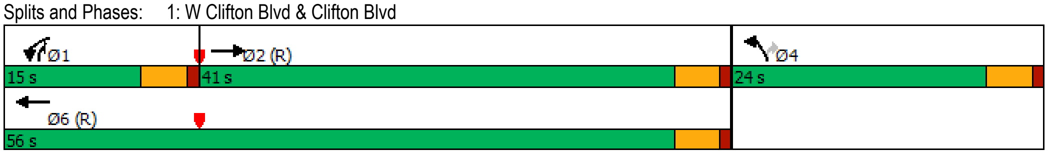
Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 10/27/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	41.0		15.0	56.0	24.0	15.0
Total Split (%)	51.3%		18.8%	70.0%	30.0%	18.8%
Maximum Green (s)	36.5		10.5	51.5	19.5	10.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	53.7		6.4	64.6	6.4	17.3
Actuated g/C Ratio	0.67		0.08	0.81	0.08	0.22
v/c Ratio	0.22		0.13	0.13	0.13	0.16
Control Delay	5.4		35.1	2.0	35.8	6.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	5.4		35.1	2.0	35.8	6.2
LOS	A		D	A	D	A
Approach Delay	5.4			7.1	10.5	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.22
Intersection Signal Delay: 6.3 Intersection LOS: A
Intersection Capacity Utilization 24.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



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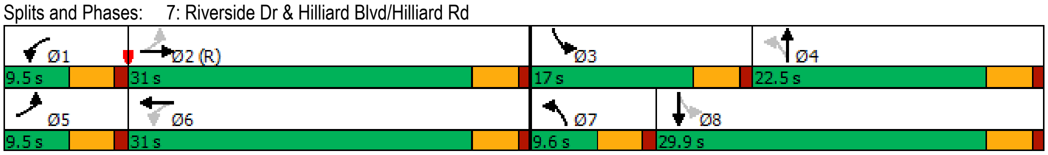
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	572	119	8	119	138	45	89	4	252	201	53
Future Volume (vph)	21	572	119	8	119	138	45	89	4	252	201	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.919			0.994			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1869	3641	0	1834	3370	0	1851	1937	0	1869	1905	0
Flt Permitted	0.577			0.272			0.577			0.480		
Satd. Flow (perm)	1135	3641	0	525	3370	0	1124	1937	0	944	1905	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	23	622	129	9	129	150	49	97	4	274	218	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	751	0	9	279	0	49	101	0	274	276	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	

Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 10/27/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.5	31.0		9.5	31.0		9.6	22.5		17.0	29.9	
Total Split (%)	11.9%	38.8%		11.9%	38.8%		12.0%	28.1%		21.3%	37.4%	
Maximum Green (s)	5.0	26.5		5.0	26.5		5.1	18.0		12.5	25.4	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	39.2	33.2		38.7	32.9		16.4	10.2		27.5	16.8	
Actuated g/C Ratio	0.49	0.42		0.48	0.41		0.20	0.13		0.34	0.21	
v/c Ratio	0.04	0.50		0.03	0.20		0.17	0.41		0.58	0.69	
Control Delay	10.5	19.7		10.6	16.9		18.2	36.2		24.6	37.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.5	19.7		10.6	16.9		18.2	36.2		24.6	37.8	
LOS	B	B		B	B		B	D		C	D	
Approach Delay		19.4			16.7			30.3			31.2	
Approach LOS		B			B			C			C	

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 49.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



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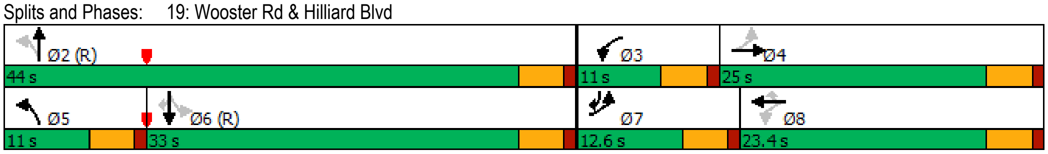
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	266	176	94	30	32	125	202	266	65	131	218
Future Volume (vph)	100	266	176	94	30	32	125	202	266	65	131	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	16	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940				0.850		0.915				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3154	0	1711	3421	1794	1694	1632	0	1694	1783	1516
Flt Permitted	0.717			0.326			0.576			0.476		
Satd. Flow (perm)	1266	3154	0	587	3421	1794	1027	1632	0	849	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						143		117				237
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	109	289	191	102	33	35	136	220	289	71	142	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	480	0	102	33	35	136	509	0	71	142	237
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd 11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8		8	2			6		6
Detector Phase	7	4		3	8	8	5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		22.5	22.5	9.5
Total Split (s)	12.6	25.0		11.0	23.4	23.4	11.0	44.0		33.0	33.0	12.6
Total Split (%)	15.8%	31.3%		13.8%	29.3%	29.3%	13.8%	55.0%		41.3%	41.3%	15.8%
Maximum Green (s)	8.1	20.5		6.5	18.9	18.9	6.5	39.5		28.5	28.5	8.1
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min	Min	Min	C-Min		C-Min	C-Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0		0		0	0	
Act Effct Green (s)	25.7	17.2		24.8	16.7	16.7	41.3	41.3		28.9	28.9	41.9
Actuated g/C Ratio	0.32	0.22		0.31	0.21	0.21	0.52	0.52		0.36	0.36	0.52
v/c Ratio	0.24	0.71		0.35	0.05	0.07	0.23	0.57		0.23	0.22	0.26
Control Delay	17.2	35.0		19.1	24.1	0.3	12.5	13.8		22.7	20.6	2.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	17.2	35.0		19.1	24.1	0.3	12.5	13.8		22.7	20.6	2.4
LOS	B	C		B	C	A	B	B		C	C	A
Approach Delay		31.7			16.2			13.5			11.4	
Approach LOS		C			B			B			B	

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 19.0 Intersection LOS: B
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



Community Confluence 10/23/2020 2040 AM - No Build Synchro 10 Report
JWG Page 2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	317	32	128	742	34	53
Future Volume (vph)	317	32	128	742	34	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.91	0.91	0.97	1.00	1.00	0.88
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4680	0	3143	1705	1668	2627
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4680	0	3143	1705	1668	2627
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	31					58
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	1%	1%
Adj. Flow (vph)	345	35	139	807	37	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	0	139	807	37	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Prot	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd

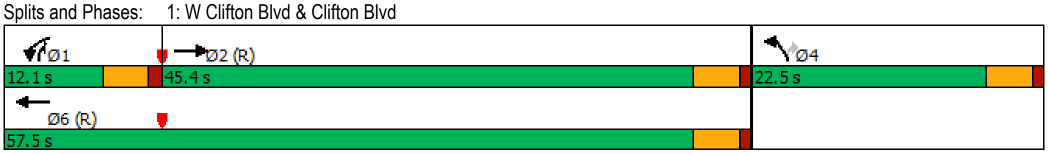
10/27/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	45.4		12.1	57.5	22.5	12.1
Total Split (%)	56.8%		15.1%	71.9%	28.1%	15.1%
Maximum Green (s)	40.9		7.6	53.0	18.0	7.6
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	50.3		8.9	63.7	7.3	20.7
Actuated g/C Ratio	0.63		0.11	0.80	0.09	0.26
v/c Ratio	0.13		0.40	0.59	0.24	0.08
Control Delay	6.1		36.1	5.6	37.0	6.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	6.1		36.1	5.6	37.0	6.3
LOS	A		D	A	D	A
Approach Delay	6.1			10.1	18.3	
Approach LOS	A			B	B	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 9.6 — Intersection LOS: A
Intersection Capacity Utilization 50.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



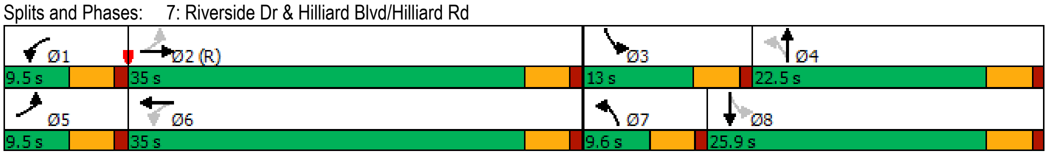
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (vph)	46	337	86	12	700	194	56	125	3	202	160	42
Future Volume (vph)	46	337	86	12	700	194	56	125	3	202	160	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970			0.967			0.997			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1888	3662	0	1888	3651	0	1869	1962	0	1851	1888	0
Flt Permitted	0.176			0.459			0.588			0.444		
Satd. Flow (perm)	350	3662	0	912	3651	0	1157	1962	0	865	1888	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	50	366	93	13	761	211	61	136	3	220	174	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	459	0	13	972	0	61	139	0	220	220	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	

Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 10/27/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.5	35.0		9.5	35.0		9.6	22.5		13.0	25.9	
Total Split (%)	11.9%	43.8%		11.9%	43.8%		12.0%	28.1%		16.3%	32.4%	
Maximum Green (s)	5.0	30.5		5.0	30.5		5.1	18.0		8.5	21.4	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	41.2	34.9		40.3	34.4		17.3	11.3		25.0	15.3	
Actuated g/C Ratio	0.52	0.44		0.50	0.43		0.22	0.14		0.31	0.19	
v/c Ratio	0.17	0.29		0.02	0.62		0.20	0.50		0.56	0.61	
Control Delay	10.2	15.9		9.2	20.6		19.8	37.1		26.4	36.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.2	15.9		9.2	20.6		19.8	37.1		26.4	36.6	
LOS	B	B		A	C		B	D		C	D	
Approach Delay		15.3			20.5			31.8			31.5	
Approach LOS		B			C			C			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 22.6	Intersection LOS: C
Intersection Capacity Utilization 62.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	132	216	367	148	140	232	284	185	61	255	253
Future Volume (vph)	75	132	216	367	148	140	232	284	185	61	255	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	16	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.907				0.850		0.941				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3103	0	1711	3421	1794	1711	1694	0	1694	1783	1516
Flt Permitted	0.650			0.305			0.334			0.476		
Satd. Flow (perm)	1170	3103	0	549	3421	1794	601	1694	0	849	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						152		49				275
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	82	143	235	399	161	152	252	309	201	66	277	275
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	378	0	399	161	152	252	510	0	66	277	275
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov

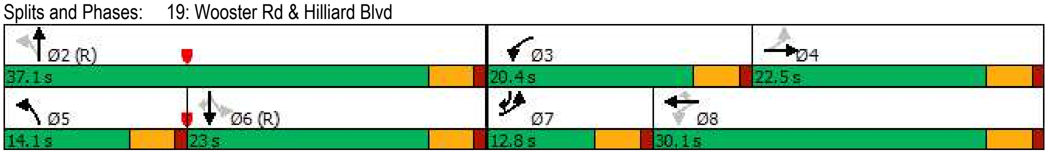
Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd

11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8		8	2			6		6
Detector Phase	7	4		3	8	8	5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		22.5	22.5	9.5
Total Split (s)	12.8	22.5		20.4	30.1	30.1	14.1	37.1		23.0	23.0	12.8
Total Split (%)	16.0%	28.1%		25.5%	37.6%	37.6%	17.6%	46.4%		28.8%	28.8%	16.0%
Maximum Green (s)	8.3	18.0		15.9	25.6	25.6	9.6	32.6		18.5	18.5	8.3
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min	Min	Min	C-Min		C-Min	C-Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0		0		0	0	
Act Effct Green (s)	22.0	14.7		35.3	23.4	23.4	35.7	35.7		20.6	20.6	32.4
Actuated g/C Ratio	0.28	0.18		0.44	0.29	0.29	0.45	0.45		0.26	0.26	0.40
v/c Ratio	0.22	0.66		0.84	0.16	0.24	0.61	0.65		0.30	0.60	0.35
Control Delay	14.8	36.1		33.9	20.9	4.8	22.8	21.1		30.4	33.9	3.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	14.8	36.1		33.9	20.9	4.8	22.8	21.1		30.4	33.9	3.7
LOS	B	D		C	C	A	C	C		C	C	A
Approach Delay		32.3			24.7			21.6			20.1	
Approach LOS		C			C			C			C	

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 24.0 — Intersection LOS: C
Intersection Capacity Utilization 76.3% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



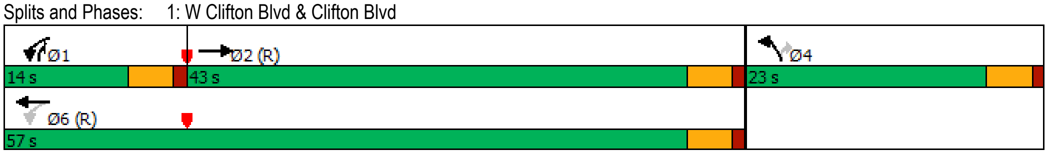
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	661	41	38	193	16	96
Future Volume (vph)	661	41	38	193	16	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3242	0	1652	1739	1636	1463
Flt Permitted			0.317		0.950	
Satd. Flow (perm)	3242	0	551	1739	1636	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11					104
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	718	45	41	210	17	104
Shared Lane Traffic (%)						
Lane Group Flow (vph)	763	0	41	210	17	104
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			10	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 11/05/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	43.0		14.0	57.0	23.0	14.0
Total Split (%)	53.8%		17.5%	71.3%	28.8%	17.5%
Maximum Green (s)	38.5		9.5	52.5	18.5	9.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	54.2		64.6	64.6	6.4	16.8
Actuated g/C Ratio	0.68		0.81	0.81	0.08	0.21
v/c Ratio	0.35		0.08	0.15	0.13	0.27
Control Delay	6.0		2.0	2.1	35.8	7.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	6.0		2.0	2.1	35.8	7.6
LOS	A		A	A	D	A
Approach Delay	6.0			2.1	11.6	
Approach LOS	A			A	B	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.35	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 39.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	594	144	8	142	118	46	83	4	260	223	53
Future Volume (vph)	24	594	144	8	142	118	46	83	4	260	223	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.932			0.994			0.987	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1869	3630	0	1851	3451	0	1851	1937	0	0	1895	0
Flt Permitted	0.555			0.194			0.468				0.798	
Satd. Flow (perm)	1092	3630	0	378	3451	0	912	1937	0	0	1550	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	26	646	157	9	154	128	50	90	4	283	242	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	803	0	9	282	0	50	94	0	0	583	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	

Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 11/05/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	9.5	25.0		9.5	25.0		9.5	45.5		36.0	36.0	
Total Split (%)	11.9%	31.3%		11.9%	31.3%		11.9%	56.9%		45.0%	45.0%	
Maximum Green (s)	5.0	20.5		5.0	20.5		5.0	41.0		31.5	31.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	25.7	20.6		25.7	20.6		40.8	40.8			31.2	
Actuated g/C Ratio	0.32	0.26		0.32	0.26		0.51	0.51			0.39	
v/c Ratio	0.07	0.86		0.04	0.32		0.10	0.10			0.97	
Control Delay	16.5	39.3		16.4	25.2		10.3	10.4			55.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	16.5	39.3		16.4	25.2		10.3	10.4			55.3	
LOS	B	D		B	C		B	B			E	
Approach Delay		38.6			25.0			10.3			55.3	
Approach LOS		D			C			B			E	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

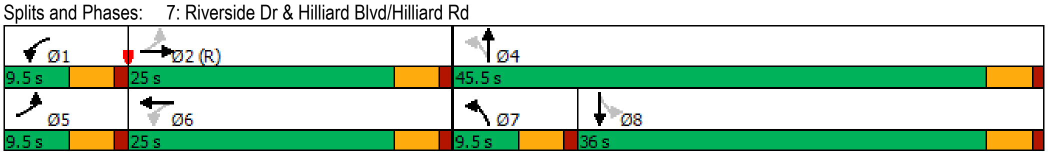
Maximum v/c Ratio: 0.97

Intersection Signal Delay: 39.5 Intersection LOS: D

Intersection Capacity Utilization 64.5% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	304	184	120	35	38	117	199	295	49	143	240
Future Volume (vph)	117	304	184	120	35	38	117	199	295	49	143	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943			0.922			0.910				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	1665	0	1711	1660	0	1694	1623	0	1694	1783	1516
Flt Permitted	0.625			0.220			0.534			0.339		
Satd. Flow (perm)	1104	1665	0	396	1660	0	952	1623	0	604	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					41			107				261
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	127	330	200	130	38	41	127	216	321	53	155	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	530	0	130	79	0	127	537	0	53	155	261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd 11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	9.5
Total Split (s)	13.4	36.0		9.6	32.2		9.6	34.4		24.8	24.8	13.4
Total Split (%)	16.8%	45.0%		12.0%	40.3%		12.0%	43.0%		31.0%	31.0%	16.8%
Maximum Green (s)	8.9	31.5		5.1	27.7		5.1	29.9		20.3	20.3	8.9
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	35.7	28.9		30.8	24.7		33.7	33.7		25.4	25.4	38.0
Actuated g/C Ratio	0.45	0.36		0.38	0.31		0.42	0.42		0.32	0.32	0.48
v/c Ratio	0.23	0.88		0.51	0.15		0.28	0.72		0.28	0.27	0.30
Control Delay	12.0	41.5		19.6	10.9		18.5	23.9		29.8	25.5	3.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	12.0	41.5		19.6	10.9		18.5	23.9		29.8	25.5	3.1
LOS	B	D		B	B		B	C		C	C	A
Approach Delay		35.8			16.3			22.9			13.5	
Approach LOS		D			B			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

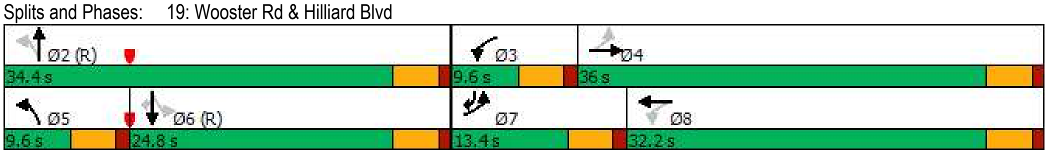
Maximum v/c Ratio: 0.88

Intersection Signal Delay: 24.2 Intersection LOS: C

Intersection Capacity Utilization 81.6% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



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Synchro 10 Report
Page 2

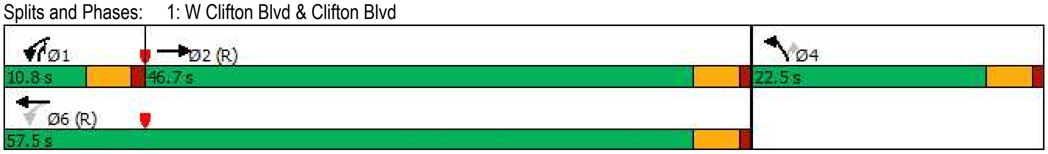
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	334	35	128	880	38	52
Future Volume (vph)	334	35	128	880	38	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3225	0	1652	1739	1636	1463
Flt Permitted			0.475		0.950	
Satd. Flow (perm)	3225	0	826	1739	1636	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	21					57
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	363	38	139	957	41	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	401	0	139	957	41	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			10	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 11/05/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	46.7		10.8	57.5	22.5	10.8
Total Split (%)	58.4%		13.5%	71.9%	28.1%	13.5%
Maximum Green (s)	42.2		6.3	53.0	18.0	6.3
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	51.9		63.5	63.5	7.5	19.1
Actuated g/C Ratio	0.65		0.79	0.79	0.09	0.24
v/c Ratio	0.19		0.19	0.69	0.27	0.15
Control Delay	6.0		2.7	7.5	37.3	7.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	6.0		2.7	7.5	37.3	7.5
LOS	A		A	A	D	A
Approach Delay	6.0			6.9	20.0	
Approach LOS	A			A	B	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 7.5	Intersection LOS: A
Intersection Capacity Utilization 58.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



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JWG

Synchro 10 Report
Page 2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	364	89	10	727	191	70	123	3	187	150	46
Future Volume (vph)	53	364	89	10	727	191	70	123	3	187	150	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970			0.969			0.997			0.984	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1869	3626	0	1851	3588	0	1851	1943	0	0	1890	0
Flt Permitted	0.146			0.397			0.500				0.776	
Satd. Flow (perm)	287	3626	0	774	3588	0	974	1943	0	0	1502	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	58	396	97	11	790	208	76	134	3	203	163	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	493	0	11	998	0	76	137	0	0	416	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	

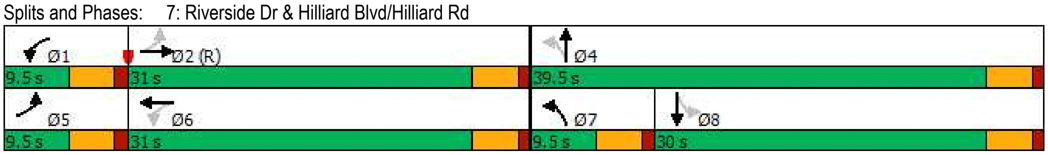
Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 11/05/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	9.5	31.0		9.5	31.0		9.5	39.5		30.0	30.0	
Total Split (%)	11.9%	38.8%		11.9%	38.8%		11.9%	49.4%		37.5%	37.5%	
Maximum Green (s)	5.0	26.5		5.0	26.5		5.0	35.0		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	32.5	27.4		32.5	27.4		34.0	34.0			24.4	
Actuated g/C Ratio	0.41	0.34		0.41	0.34		0.42	0.42			0.30	
v/c Ratio	0.27	0.40		0.03	0.81		0.16	0.17			0.91	
Control Delay	15.8	21.5		12.5	31.0		14.2	14.5			52.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	15.8	21.5		12.5	31.0		14.2	14.5			52.9	
LOS	B	C		B	C		B	B			D	
Approach Delay		20.9			30.8			14.4			52.9	
Approach LOS		C			C			B			D	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 30.9 Intersection LOS: C
Intersection Capacity Utilization 73.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



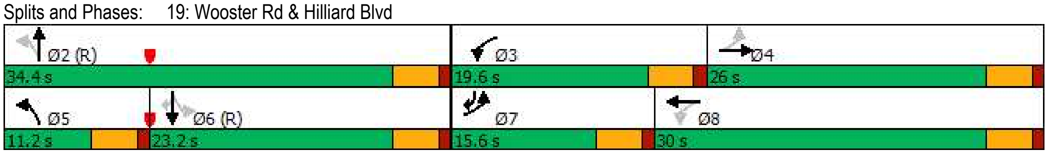
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	155	251	401	152	153	244	285	196	71	263	283
Future Volume (vph)	77	155	251	401	152	153	244	285	196	71	263	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.907			0.925			0.939				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1633	0	1711	1666	0	1711	1691	0	1694	1783	1516
Flt Permitted	0.561			0.154			0.251			0.307		
Satd. Flow (perm)	1010	1633	0	277	1666	0	452	1691	0	547	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					66			49				308
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	84	168	273	436	165	166	265	310	213	77	286	308
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	441	0	436	331	0	265	523	0	77	286	308
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd 11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	9.5
Total Split (s)	15.6	26.0		19.6	30.0		11.2	34.4		23.2	23.2	15.6
Total Split (%)	19.5%	32.5%		24.5%	37.5%		14.0%	43.0%		29.0%	29.0%	19.5%
Maximum Green (s)	11.1	21.5		15.1	25.5		6.7	29.9		18.7	18.7	11.1
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	29.0	21.5		43.3	31.3		27.7	27.7		16.5	16.5	28.5
Actuated g/C Ratio	0.36	0.27		0.54	0.39		0.35	0.35		0.21	0.21	0.36
v/c Ratio	0.20	1.01		0.95	0.48		1.01	0.85		0.69	0.78	0.42
Control Delay	11.9	76.7		54.5	18.3		84.5	35.8		60.2	45.0	3.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	11.9	76.7		54.5	18.3		84.5	35.8		60.2	45.0	3.9
LOS	B	E		D	B		F	D		E	D	A
Approach Delay		66.3			38.9			52.2			27.9	
Approach LOS		E			D			D			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 45.2	Intersection LOS: D
Intersection Capacity Utilization 91.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



Community Confluence 10/23/2020 2020 PM - Build
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Synchro 10 Report
Page 2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	610	36	31	171	16	92
Future Volume (vph)	610	36	31	171	16	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3245	0	1652	1739	1636	1463
Flt Permitted			0.341		0.950	
Satd. Flow (perm)	3245	0	593	1739	1636	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	10					100
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	663	39	34	186	17	100
Shared Lane Traffic (%)						
Lane Group Flow (vph)	702	0	34	186	17	100
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			10	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd

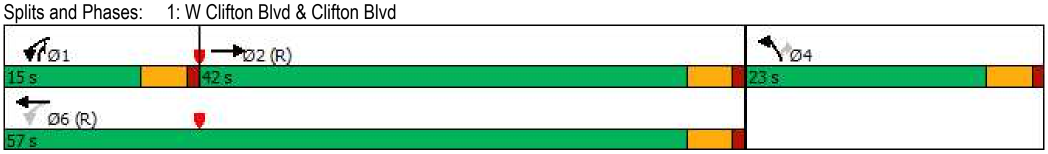
11/05/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	42.0		15.0	57.0	23.0	15.0
Total Split (%)	52.5%		18.8%	71.3%	28.8%	18.8%
Maximum Green (s)	37.5		10.5	52.5	18.5	10.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	54.2		64.6	64.6	6.4	16.8
Actuated g/C Ratio	0.68		0.81	0.81	0.08	0.21
v/c Ratio	0.32		0.06	0.13	0.13	0.26
Control Delay	5.8		1.9	2.0	35.8	7.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	5.8		1.9	2.0	35.8	7.7
LOS	A		A	A	D	A
Approach Delay	5.8			2.0	11.8	
Approach LOS	A			A	B	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 5.7 Intersection LOS: A
Intersection Capacity Utilization 37.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



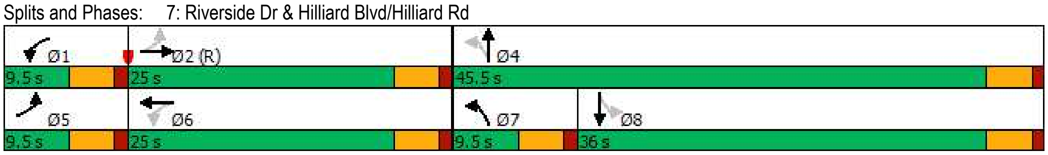
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	572	119	8	119	138	45	89	4	252	201	52
Future Volume (vph)	21	572	119	8	119	138	45	89	4	252	201	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.919			0.994			0.986	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1869	3641	0	1851	3403	0	1851	1937	0	0	1894	0
Flt Permitted	0.561			0.188			0.482				0.790	
Satd. Flow (perm)	1104	3641	0	366	3403	0	939	1937	0	0	1533	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	23	622	129	9	129	150	49	97	4	274	218	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	751	0	9	279	0	49	101	0	0	549	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	

Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 11/05/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	9.5	25.0		9.5	25.0		9.5	45.5		36.0	36.0	
Total Split (%)	11.9%	31.3%		11.9%	31.3%		11.9%	56.9%		45.0%	45.0%	
Maximum Green (s)	5.0	20.5		5.0	20.5		5.0	41.0		31.5	31.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	26.4	21.3		26.4	21.3		40.1	40.1			30.5	
Actuated g/C Ratio	0.33	0.27		0.33	0.27		0.50	0.50			0.38	
v/c Ratio	0.06	0.78		0.04	0.31		0.09	0.10			0.94	
Control Delay	16.4	34.2		16.4	25.0		10.3	10.5			50.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	16.4	34.2		16.4	25.0		10.3	10.5			50.6	
LOS	B	C		B	C		B	B			D	
Approach Delay		33.7			24.7			10.4			50.6	
Approach LOS		C			C			B			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 35.5	Intersection LOS: D
Intersection Capacity Utilization 61.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



Community Confluence 10/23/2020 2040 AM - Build
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Synchro 10 Report
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	266	176	94	30	32	125	202	266	65	131	218
Future Volume (vph)	100	266	176	94	30	32	125	202	266	65	131	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940			0.923			0.915				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	1660	0	1711	1662	0	1694	1632	0	1694	1783	1516
Flt Permitted	0.646			0.242			0.549			0.432		
Satd. Flow (perm)	1141	1660	0	436	1662	0	979	1632	0	770	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					35			96				237
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	109	289	191	102	33	35	136	220	289	71	142	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	480	0	102	68	0	136	509	0	71	142	237
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd 11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	9.5
Total Split (s)	12.6	35.0		9.6	32.0		9.6	35.4		25.8	25.8	12.6
Total Split (%)	15.8%	43.8%		12.0%	40.0%		12.0%	44.3%		32.3%	32.3%	15.8%
Maximum Green (s)	8.1	30.5		5.1	27.5		5.1	30.9		21.3	21.3	8.1
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	33.3	26.9		29.9	23.6		35.4	35.4		24.0	24.0	36.1
Actuated g/C Ratio	0.42	0.34		0.37	0.30		0.44	0.44		0.30	0.30	0.45
v/c Ratio	0.21	0.86		0.39	0.13		0.28	0.66		0.31	0.27	0.29
Control Delay	12.4	40.7		16.0	11.2		17.6	20.9		29.3	25.4	3.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	12.4	40.7		16.0	11.2		17.6	20.9		29.3	25.4	3.2
LOS	B	D		B	B		B	C		C	C	A
Approach Delay		35.5			14.1			20.2			14.3	
Approach LOS		D			B			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

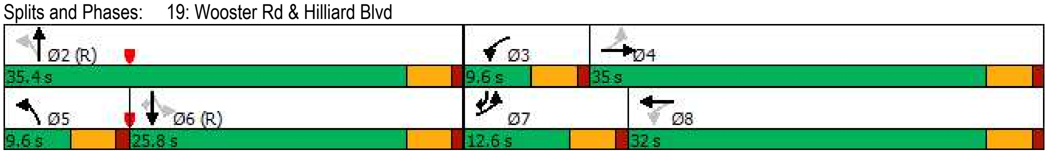
Maximum v/c Ratio: 0.86

Intersection Signal Delay: 23.1 Intersection LOS: C

Intersection Capacity Utilization 76.0% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



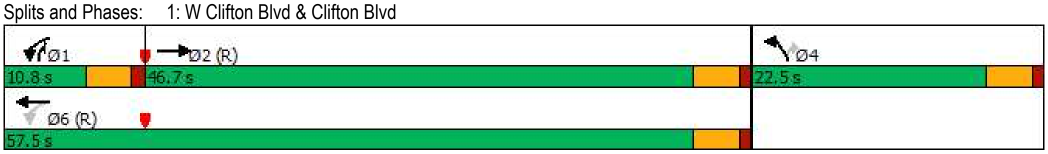
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	317	32	128	742	34	53
Future Volume (vph)	317	32	128	742	34	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3225	0	1652	1739	1636	1463
Flt Permitted			0.485		0.950	
Satd. Flow (perm)	3225	0	843	1739	1636	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	20					58
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	345	35	139	807	37	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	0	139	807	37	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			10	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 11/05/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	46.7		10.8	57.5	22.5	10.8
Total Split (%)	58.4%		13.5%	71.9%	28.1%	13.5%
Maximum Green (s)	42.2		6.3	53.0	18.0	6.3
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	52.1		63.6	63.6	7.4	18.9
Actuated g/C Ratio	0.65		0.80	0.80	0.09	0.24
v/c Ratio	0.18		0.19	0.58	0.25	0.15
Control Delay	5.8		2.6	5.4	37.1	7.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	5.8		2.6	5.4	37.1	7.5
LOS	A		A	A	D	A
Approach Delay	5.8			5.0	19.1	
Approach LOS	A			A	B	

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 6.2 Intersection LOS: A
Intersection Capacity Utilization 50.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



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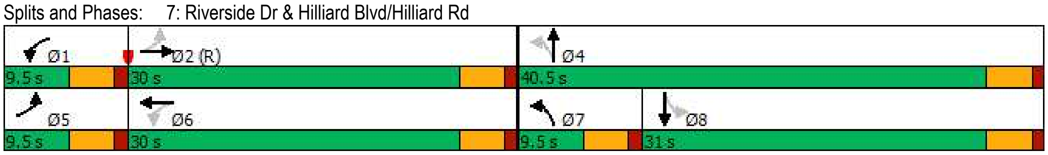
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	337	86	12	700	194	56	125	3	202	160	42
Future Volume (vph)	46	337	86	12	700	194	56	125	3	202	160	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970			0.967			0.997			0.986	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1869	3626	0	1851	3580	0	1851	1943	0	0	1894	0
Flt Permitted	0.152			0.417			0.503				0.771	
Satd. Flow (perm)	299	3626	0	813	3580	0	980	1943	0	0	1496	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	50	366	93	13	761	211	61	136	3	220	174	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	459	0	13	972	0	61	139	0	0	440	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	

Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 11/05/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	9.5	30.0		9.5	30.0		9.5	40.5		31.0	31.0	
Total Split (%)	11.9%	37.5%		11.9%	37.5%		11.9%	50.6%		38.8%	38.8%	
Maximum Green (s)	5.0	25.5		5.0	25.5		5.0	36.0		26.5	26.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	31.4	26.3		31.4	26.3		35.1	35.1			25.5	
Actuated g/C Ratio	0.39	0.33		0.39	0.33		0.44	0.44			0.32	
v/c Ratio	0.23	0.39		0.03	0.83		0.13	0.16			0.92	
Control Delay	15.8	22.1		13.2	32.6		13.3	13.8			53.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	15.8	22.1		13.2	32.6		13.3	13.8			53.9	
LOS	B	C		B	C		B	B			D	
Approach Delay		21.5			32.3			13.7			53.9	
Approach LOS		C			C			B			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 32.4	Intersection LOS: C
Intersection Capacity Utilization 73.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	132	216	367	148	140	232	284	185	61	255	253
Future Volume (vph)	75	132	216	367	148	140	232	284	185	61	255	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.907			0.927			0.941				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1633	0	1711	1669	0	1711	1694	0	1694	1783	1516
Flt Permitted	0.570			0.193			0.298			0.378		
Satd. Flow (perm)	1026	1633	0	348	1669	0	537	1694	0	674	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					61			48				275
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	82	143	235	399	161	152	252	309	201	66	277	275
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	378	0	399	313	0	252	510	0	66	277	275
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov

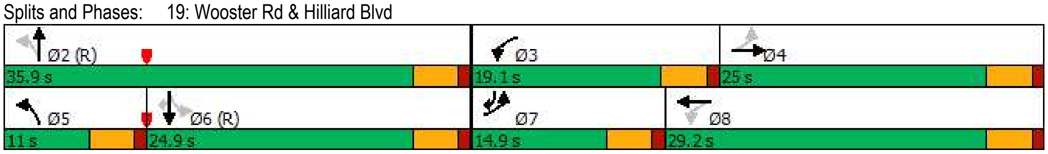
Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd 11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	9.5
Total Split (s)	14.9	25.0		19.1	29.2		11.0	35.9		24.9	24.9	14.9
Total Split (%)	18.6%	31.3%		23.9%	36.5%		13.8%	44.9%		31.1%	31.1%	18.6%
Maximum Green (s)	10.4	20.5		14.6	24.7		6.5	31.4		20.4	20.4	10.4
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	27.8	20.3		41.2	29.3		29.8	29.8		18.1	18.1	30.1
Actuated g/C Ratio	0.35	0.25		0.52	0.37		0.37	0.37		0.23	0.23	0.38
v/c Ratio	0.20	0.91		0.87	0.48		0.83	0.77		0.43	0.69	0.37
Control Delay	12.4	58.1		38.5	19.2		44.8	29.2		35.8	37.6	3.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	12.4	58.1		38.5	19.2		44.8	29.2		35.8	37.6	3.5
LOS	B	E		D	B		D	C		D	D	A
Approach Delay		49.9			30.0			34.3			22.3	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 33.0 Intersection LOS: C
Intersection Capacity Utilization 85.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



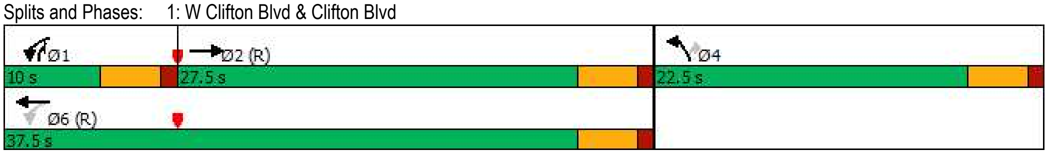
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	661	41	38	193	16	96
Future Volume (vph)	661	41	38	193	16	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3242	0	1652	1739	1636	1463
Flt Permitted			0.294		0.950	
Satd. Flow (perm)	3242	0	511	1739	1636	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	12					91
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	718	45	41	210	17	104
Shared Lane Traffic (%)						
Lane Group Flow (vph)	763	0	41	210	17	104
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			10	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 11/05/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	27.5		10.0	37.5	22.5	10.0
Total Split (%)	45.8%		16.7%	62.5%	37.5%	16.7%
Maximum Green (s)	23.0		5.5	33.0	18.0	5.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	34.4		44.8	44.8	6.2	16.6
Actuated g/C Ratio	0.57		0.75	0.75	0.10	0.28
v/c Ratio	0.41		0.08	0.16	0.10	0.22
Control Delay	8.1		2.5	2.7	25.2	6.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	8.1		2.5	2.7	25.2	6.5
LOS	A		A	A	C	A
Approach Delay	8.1			2.6	9.2	
Approach LOS	A			A	A	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 7.0	Intersection LOS: A
Intersection Capacity Utilization 39.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



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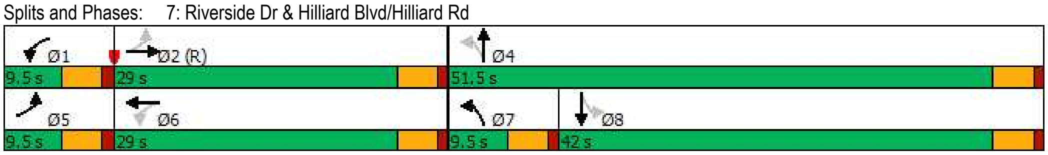
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	594	144	8	142	118	46	83	4	260	223	53
Future Volume (vph)	24	594	144	8	142	118	46	83	4	260	223	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.932			0.994			0.987	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1869	3630	0	1851	3451	0	1851	1937	0	0	1895	0
Flt Permitted	0.549			0.157			0.467				0.798	
Satd. Flow (perm)	1080	3630	0	306	3451	0	910	1937	0	0	1550	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	26	646	157	9	154	128	50	90	4	283	242	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	803	0	9	282	0	50	94	0	0	583	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	

Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 11/05/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	9.5	29.0		9.5	29.0		9.5	51.5		42.0	42.0	
Total Split (%)	10.6%	32.2%		10.6%	32.2%		10.6%	57.2%		46.7%	46.7%	
Maximum Green (s)	5.0	24.5		5.0	24.5		5.0	47.0		37.5	37.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	30.8	25.6		30.8	25.6		45.7	45.7			36.1	
Actuated g/C Ratio	0.34	0.28		0.34	0.28		0.51	0.51			0.40	
v/c Ratio	0.06	0.78		0.05	0.29		0.10	0.10			0.94	
Control Delay	18.2	36.3		18.2	26.6		11.1	11.3			51.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	18.2	36.3		18.2	26.6		11.1	11.3			51.1	
LOS	B	D		B	C		B	B			D	
Approach Delay		35.8			26.3			11.2			51.1	
Approach LOS		D			C			B			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 37.2	Intersection LOS: D
Intersection Capacity Utilization 64.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



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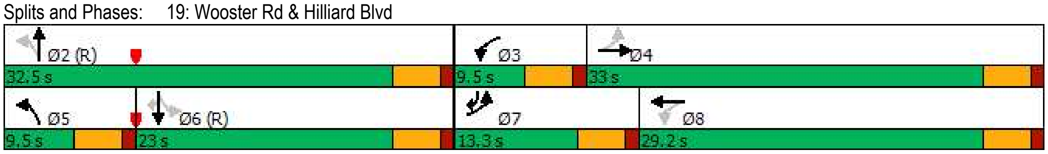
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	304	184	120	35	38	117	199	295	49	143	240
Future Volume (vph)	117	304	184	120	35	38	117	199	295	49	143	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943			0.922			0.910				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	1665	0	1711	1660	0	1694	1623	0	1694	1783	1516
Flt Permitted	0.618			0.219			0.529			0.346		
Satd. Flow (perm)	1091	1665	0	394	1660	0	943	1623	0	617	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					41			114				261
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	127	330	200	130	38	41	127	216	321	53	155	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	530	0	130	79	0	127	537	0	53	155	261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd 11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	9.5
Total Split (s)	13.3	33.0		9.5	29.2		9.5	32.5		23.0	23.0	13.3
Total Split (%)	17.7%	44.0%		12.7%	38.9%		12.7%	43.3%		30.7%	30.7%	17.7%
Maximum Green (s)	8.8	28.5		5.0	24.7		5.0	28.0		18.5	18.5	8.8
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	33.3	26.6		28.3	22.4		31.1	31.1		22.9	22.9	35.4
Actuated g/C Ratio	0.44	0.35		0.38	0.30		0.41	0.41		0.31	0.31	0.47
v/c Ratio	0.23	0.90		0.52	0.15		0.28	0.73		0.28	0.28	0.31
Control Delay	11.5	42.9		19.1	10.9		17.7	23.0		28.8	24.8	3.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	11.5	42.9		19.1	10.9		17.7	23.0		28.8	24.8	3.1
LOS	B	D		B	B		B	C		C	C	A
Approach Delay		36.8			16.0			22.0			13.2	
Approach LOS		D			B			C			B	

Intersection Summary
Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 24.2 Intersection LOS: C
Intersection Capacity Utilization 81.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



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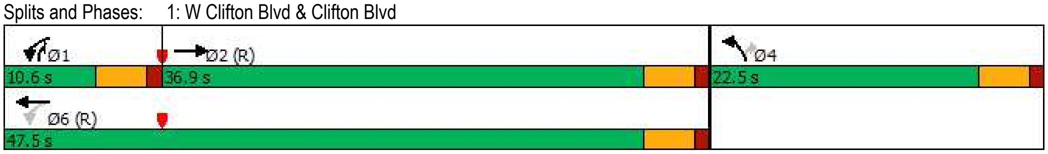
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	334	35	128	880	38	52
Future Volume (vph)	334	35	128	880	38	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3225	0	1652	1739	1636	1463
Flt Permitted			0.466		0.950	
Satd. Flow (perm)	3225	0	810	1739	1636	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	21					57
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	363	38	139	957	41	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	401	0	139	957	41	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			10	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 11/05/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	36.9		10.6	47.5	22.5	10.6
Total Split (%)	52.7%		15.1%	67.9%	32.1%	15.1%
Maximum Green (s)	32.4		6.1	43.0	18.0	6.1
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	42.2		53.7	53.7	7.3	18.8
Actuated g/C Ratio	0.60		0.77	0.77	0.10	0.27
v/c Ratio	0.21		0.20	0.72	0.24	0.13
Control Delay	6.7		3.0	8.5	31.7	6.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	6.7		3.0	8.5	31.7	6.2
LOS	A		A	A	C	A
Approach Delay	6.7			7.8	16.9	
Approach LOS	A			A	B	

Intersection Summary	
Area Type: Other	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 8.1	Intersection LOS: A
Intersection Capacity Utilization 58.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	364	89	10	727	191	70	123	3	187	150	46
Future Volume (vph)	53	364	89	10	727	191	70	123	3	187	150	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970			0.969			0.997			0.984	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1869	3626	0	1851	3588	0	1851	1943	0	0	1890	0
Flt Permitted	0.146			0.397			0.500				0.776	
Satd. Flow (perm)	287	3626	0	774	3588	0	974	1943	0	0	1502	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	58	396	97	11	790	208	76	134	3	203	163	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	493	0	11	998	0	76	137	0	0	416	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	

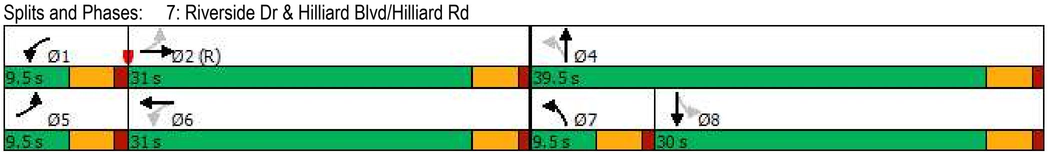
Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd

11/05/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	9.5	31.0		9.5	31.0		9.5	39.5		30.0	30.0	
Total Split (%)	11.9%	38.8%		11.9%	38.8%		11.9%	49.4%		37.5%	37.5%	
Maximum Green (s)	5.0	26.5		5.0	26.5		5.0	35.0		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	32.5	27.4		32.5	27.4		34.0	34.0			24.4	
Actuated g/C Ratio	0.41	0.34		0.41	0.34		0.42	0.42			0.30	
v/c Ratio	0.27	0.40		0.03	0.81		0.16	0.17			0.91	
Control Delay	15.8	21.5		12.5	31.0		14.2	14.5			52.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	15.8	21.5		12.5	31.0		14.2	14.5			52.9	
LOS	B	C		B	C		B	B			D	
Approach Delay		20.9			30.8			14.4			52.9	
Approach LOS		C			C			B			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 30.9	Intersection LOS: C
Intersection Capacity Utilization 73.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



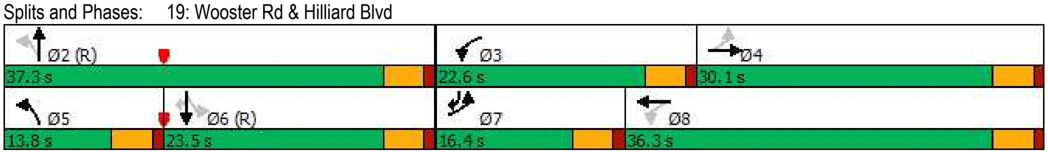
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	155	251	401	152	153	244	285	196	71	263	283
Future Volume (vph)	77	155	251	401	152	153	244	285	196	71	263	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.907			0.925			0.939				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1633	0	1711	1666	0	1711	1691	0	1694	1783	1516
Flt Permitted	0.561			0.152			0.221			0.331		
Satd. Flow (perm)	1010	1633	0	274	1666	0	398	1691	0	590	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					62			43				308
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	84	168	273	436	165	166	265	310	213	77	286	308
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	441	0	436	331	0	265	523	0	77	286	308
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd 11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	9.5
Total Split (s)	16.4	30.1		22.6	36.3		13.8	37.3		23.5	23.5	16.4
Total Split (%)	18.2%	33.4%		25.1%	40.3%		15.3%	41.4%		26.1%	26.1%	18.2%
Maximum Green (s)	11.9	25.6		18.1	31.8		9.3	32.8		19.0	19.0	11.9
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	33.0	25.4		49.3	37.1		31.7	31.7		17.5	17.5	29.7
Actuated g/C Ratio	0.37	0.28		0.55	0.41		0.35	0.35		0.19	0.19	0.33
v/c Ratio	0.20	0.96		0.95	0.46		0.94	0.84		0.68	0.82	0.44
Control Delay	12.6	66.3		55.1	18.5		67.7	38.2		62.8	54.9	4.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	12.6	66.3		55.1	18.5		67.7	38.2		62.8	54.9	4.6
LOS	B	E		E	B		E	D		E	D	A
Approach Delay		57.7			39.3			48.1			32.7	
Approach LOS		E			D			D			C	

Intersection Summary
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 43.7 Intersection LOS: D
Intersection Capacity Utilization 91.9% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



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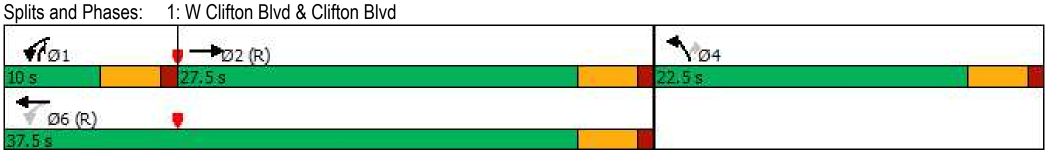
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	610	36	31	171	16	92
Future Volume (vph)	610	36	31	171	16	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3245	0	1652	1739	1636	1463
Flt Permitted			0.320		0.950	
Satd. Flow (perm)	3245	0	556	1739	1636	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11					100
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	663	39	34	186	17	100
Shared Lane Traffic (%)						
Lane Group Flow (vph)	702	0	34	186	17	100
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			10	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 11/05/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	27.5		10.0	37.5	22.5	10.0
Total Split (%)	45.8%		16.7%	62.5%	37.5%	16.7%
Maximum Green (s)	23.0		5.5	33.0	18.0	5.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	34.4		44.8	44.8	6.2	16.6
Actuated g/C Ratio	0.57		0.75	0.75	0.10	0.28
v/c Ratio	0.38		0.07	0.14	0.10	0.21
Control Delay	7.7		2.4	2.6	25.2	5.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.7		2.4	2.6	25.2	5.4
LOS	A		A	A	C	A
Approach Delay	7.7			2.6	8.3	
Approach LOS	A			A	A	

Intersection Summary
Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.38
Intersection Signal Delay: 6.7 Intersection LOS: A
Intersection Capacity Utilization 37.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



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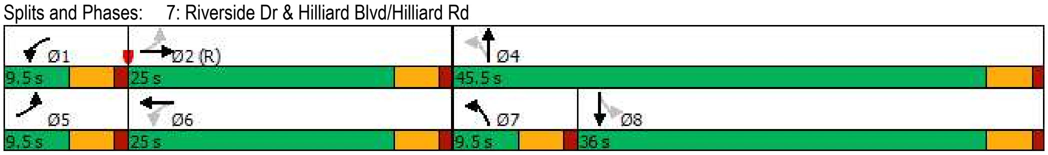
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	572	119	8	119	138	45	89	4	252	201	52
Future Volume (vph)	21	572	119	8	119	138	45	89	4	252	201	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.919			0.994			0.986	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1869	3641	0	1851	3403	0	1851	1937	0	0	1894	0
Flt Permitted	0.561			0.188			0.482				0.790	
Satd. Flow (perm)	1104	3641	0	366	3403	0	939	1937	0	0	1533	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	23	622	129	9	129	150	49	97	4	274	218	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	751	0	9	279	0	49	101	0	0	549	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	

Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 11/05/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	9.5	25.0		9.5	25.0		9.5	45.5		36.0	36.0	
Total Split (%)	11.9%	31.3%		11.9%	31.3%		11.9%	56.9%		45.0%	45.0%	
Maximum Green (s)	5.0	20.5		5.0	20.5		5.0	41.0		31.5	31.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	26.4	21.3		26.4	21.3		40.1	40.1			30.5	
Actuated g/C Ratio	0.33	0.27		0.33	0.27		0.50	0.50			0.38	
v/c Ratio	0.06	0.78		0.04	0.31		0.09	0.10			0.94	
Control Delay	16.4	34.2		16.4	25.0		10.3	10.5			50.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	16.4	34.2		16.4	25.0		10.3	10.5			50.6	
LOS	B	C		B	C		B	B			D	
Approach Delay		33.7			24.7			10.4			50.6	
Approach LOS		C			C			B			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 35.5	Intersection LOS: D
Intersection Capacity Utilization 61.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



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Synchro 10 Report
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	266	176	94	30	32	125	202	266	65	131	218
Future Volume (vph)	100	266	176	94	30	32	125	202	266	65	131	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940			0.923			0.915				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	1660	0	1711	1662	0	1694	1632	0	1694	1783	1516
Flt Permitted	0.647			0.240			0.542			0.411		
Satd. Flow (perm)	1143	1660	0	432	1662	0	966	1632	0	733	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					35			113				237
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	109	289	191	102	33	35	136	220	289	71	142	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	480	0	102	68	0	136	509	0	71	142	237
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd

11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	9.5
Total Split (s)	11.6	28.0		9.5	25.9		9.5	32.5		23.0	23.0	11.6
Total Split (%)	16.6%	40.0%		13.6%	37.0%		13.6%	46.4%		32.9%	32.9%	16.6%
Maximum Green (s)	7.1	23.5		5.0	21.4		5.0	28.0		18.5	18.5	7.1
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	28.7	22.8		25.9	19.8		29.7	29.7		21.5	21.5	33.0
Actuated g/C Ratio	0.41	0.33		0.37	0.28		0.42	0.42		0.31	0.31	0.47
v/c Ratio	0.21	0.89		0.38	0.14		0.29	0.67		0.32	0.26	0.28
Control Delay	11.3	43.6		14.6	11.0		16.1	19.0		27.2	22.9	2.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	11.3	43.6		14.6	11.0		16.1	19.0		27.2	22.9	2.9
LOS	B	D		B	B		B	B		C	C	A
Approach Delay		37.6			13.1			18.4			13.1	
Approach LOS		D			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

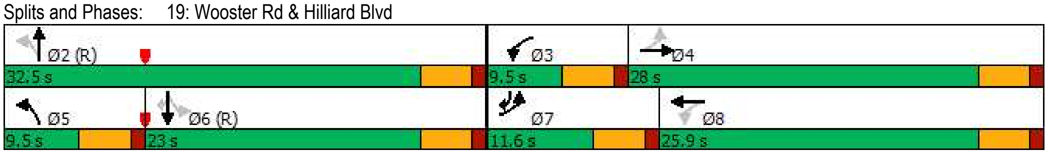
Maximum v/c Ratio: 0.89

Intersection Signal Delay: 22.7 Intersection LOS: C

Intersection Capacity Utilization 76.0% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



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Synchro 10 Report
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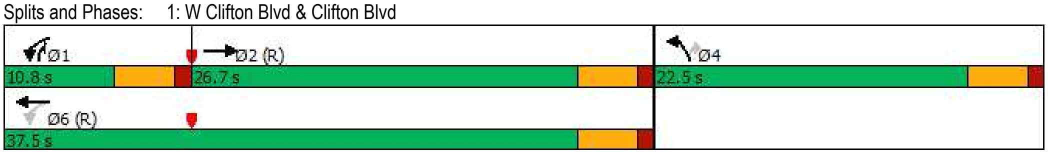
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	317	32	128	742	34	53
Future Volume (vph)	317	32	128	742	34	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3225	0	1652	1739	1636	1463
Flt Permitted			0.463		0.950	
Satd. Flow (perm)	3225	0	805	1739	1636	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	20					58
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			586	801	
Travel Time (s)	3.9			11.4	15.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	345	35	139	807	37	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	0	139	807	37	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			10	10	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Detector Phase	2		1	6	4	1

Lanes, Volumes, Timings
1: W Clifton Blvd & Clifton Blvd 11/05/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		9.5	22.5	22.5	9.5
Total Split (s)	26.7		10.8	37.5	22.5	10.8
Total Split (%)	44.5%		18.0%	62.5%	37.5%	18.0%
Maximum Green (s)	22.2		6.3	33.0	18.0	6.3
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		Min	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	32.6		44.1	44.1	6.9	18.4
Actuated g/C Ratio	0.54		0.74	0.74	0.12	0.31
v/c Ratio	0.22		0.20	0.63	0.20	0.12
Control Delay	7.6		3.3	7.0	25.9	5.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.6		3.3	7.0	25.9	5.0
LOS	A		A	A	C	A
Approach Delay	7.6			6.5	13.1	
Approach LOS	A			A	B	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 7.2	Intersection LOS: A
Intersection Capacity Utilization 50.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: W Clifton Blvd & Clifton Blvd



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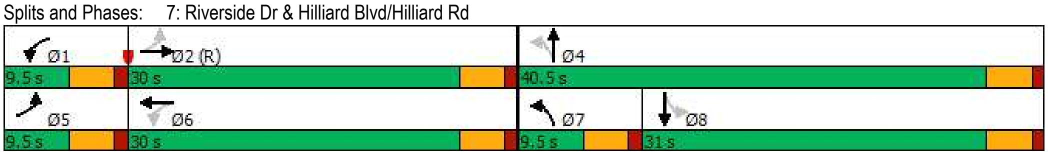
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	337	86	12	700	194	56	125	3	202	160	42
Future Volume (vph)	46	337	86	12	700	194	56	125	3	202	160	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	180		0	150		0	275		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970			0.967			0.997			0.986	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1869	3626	0	1851	3580	0	1851	1943	0	0	1894	0
Flt Permitted	0.152			0.417			0.503				0.771	
Satd. Flow (perm)	299	3626	0	813	3580	0	980	1943	0	0	1496	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		884			662			559			500	
Travel Time (s)		17.2			12.9			10.9			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	50	366	93	13	761	211	61	136	3	220	174	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	459	0	13	972	0	61	139	0	0	440	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	

Lanes, Volumes, Timings
7: Riverside Dr & Hilliard Blvd/Hilliard Rd 11/05/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	9.5	30.0		9.5	30.0		9.5	40.5		31.0	31.0	
Total Split (%)	11.9%	37.5%		11.9%	37.5%		11.9%	50.6%		38.8%	38.8%	
Maximum Green (s)	5.0	25.5		5.0	25.5		5.0	36.0		26.5	26.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	31.4	26.3		31.4	26.3		35.1	35.1			25.5	
Actuated g/C Ratio	0.39	0.33		0.39	0.33		0.44	0.44			0.32	
v/c Ratio	0.23	0.39		0.03	0.83		0.13	0.16			0.92	
Control Delay	15.8	22.1		13.2	32.6		13.3	13.8			53.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	15.8	22.1		13.2	32.6		13.3	13.8			53.9	
LOS	B	C		B	C		B	B			D	
Approach Delay		21.5			32.3			13.7			53.9	
Approach LOS		C			C			B			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 32.4	Intersection LOS: C
Intersection Capacity Utilization 73.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Riverside Dr & Hilliard Blvd/Hilliard Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	132	216	367	148	140	232	284	185	61	255	253
Future Volume (vph)	75	132	216	367	148	140	232	284	185	61	255	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	225		0	500		75	75		0	200		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.907			0.927			0.941				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1633	0	1711	1669	0	1711	1694	0	1694	1783	1516
Flt Permitted	0.570			0.195			0.288			0.439		
Satd. Flow (perm)	1026	1633	0	351	1669	0	519	1694	0	783	1783	1516
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					58			42				275
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		604			638			277			449	
Travel Time (s)		11.8			12.4			5.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	82	143	235	399	161	152	252	309	201	66	277	275
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	378	0	399	313	0	252	510	0	66	277	275
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov

Lanes, Volumes, Timings
19: Wooster Rd & Hilliard Blvd 11/06/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	9.5
Total Split (s)	15.4	29.0		22.0	35.6		15.0	39.0		24.0	24.0	15.4
Total Split (%)	17.1%	32.2%		24.4%	39.6%		16.7%	43.3%		26.7%	26.7%	17.1%
Maximum Green (s)	10.9	24.5		17.5	31.1		10.5	34.5		19.5	19.5	10.9
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0		0	0	
Act Effct Green (s)	31.0	23.3		45.3	33.1		35.7	35.7		20.3	20.3	32.5
Actuated g/C Ratio	0.34	0.26		0.50	0.37		0.40	0.40		0.23	0.23	0.36
v/c Ratio	0.20	0.90		0.90	0.48		0.72	0.73		0.38	0.69	0.38
Control Delay	13.5	57.4		44.7	20.4		33.9	29.1		37.9	43.0	4.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	13.5	57.4		44.7	20.4		33.9	29.1		37.9	43.0	4.2
LOS	B	E		D	C		C	C		D	D	A
Approach Delay		49.6			34.0			30.7			25.2	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

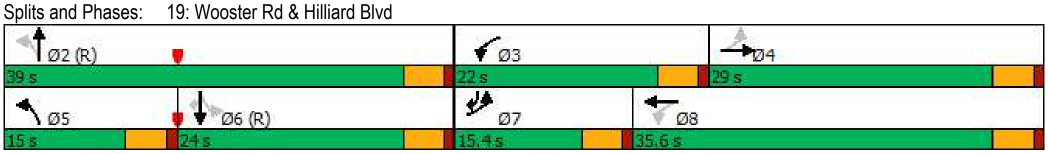
Maximum v/c Ratio: 0.90

Intersection Signal Delay: 33.7 Intersection LOS: C

Intersection Capacity Utilization 85.9% ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 19: Wooster Rd & Hilliard Blvd



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PROJECT COST ESTIMATES

The following pages exhibit planning-level cost estimates for each transportation and urban design recommendation. Unit costs are based on the consultant's recent past construction bidding experience on similar projects.

A. Clifton Boulevard & Lake Road (p.50)

OHM
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Community Confluence - Priority Projects

OHM Advisors
6001 Euclid Avenue, Suite 130
Cleveland, OH 44103

CLIFTON BLVD. / LAKE ROAD

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
	CLIFTON BRIDGE IMPROVEMENTS (1,200 LF) - SHORT TERM				
1	Misc. Removal (Marking Removal, Clearing, Demolition)	1200	LF	$ 25.00	$ 30,000.00
2	2' Wide Buffer Striping	1200	LF	$ 15.00	$ 18,000.00
3	Travel Lane Re-striping & Buffer	1200	LF	$ 15.00	$ 18,000.00
4	Bicycle Lane Symbols (250' Apart)	5	EACH	$ 500.00	$ 2,400.00
5	10' x 1' Architectural Planters (50' on center)	24	EACH	$ 1,500.00	$ 36,000.00
	LAKE ROAD IMPROVEMENTS (900 LF)				
6	Misc. Removal (Marking Removal, Clearing, Demolition)	900	LF	$ 25.00	$ 22,500.00
7	3' Wide Buffer (stripping & vertical posts)	900	LF	$ 20.00	$ 18,000.00
8	Cycle Track Striping	900	LF	$ 10.00	$ 9,000.00
	ON RAMP ALL-PURPOSE TRAIL (325 LF)				
9	Remove Existing 5' Sidewalk	325	LF	$ 10.00	$ 3,250.00
10	10' Shared Use Path	325	LF	$ 100.00	$ 32,500.00
11	Trail Crosswalk	2	EACH	$ 5,000.00	$ 10,000.00
				Subtotal:	**$ 199,650.00**
				25% Contingency:	$ 50,000.00
				15% General Conditions / Mobilization:	$ 30,000.00
				4% Maintenance of Traffic	$ 8,000.00
				Total Construction Cost:	**$ 287,650.00**
				12% Design Fees (soft costs):	$ 34,600.00
				10% Construction Engineering & Inspection:	$ 28,800.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 351,100.00**
				2022 Cost:	**$ 362,000.00**
				2023 Cost:	**$ 374,000.00**
				2024 Cost:	**$ 384,000.00**
				2025 Cost:	**$ 395,000.00**
				2026 Cost:	**$ 408,000.00**

CLIFTON BRIDGE IMPROVEMENTS (1,200 LF) - LONG TERM					
1	Freestanding Concrete Curb	1200	LF	$ 30.00	$ 36,000.00
2	10' Expanded Concrete Sidewalk	1200	LF	$ 80.00	$ 96,000.00
3	10' Buffer (synthetic turf)	1200	LF	$ 250.00	$ 300,000.00
4	10' x 6' Architectural Planters (50' on center)	24	EACH	$ 2,500.00	$ 60,000.00
				Subtotal:	**$ 492,000.00**
				25% Contingency:	$ 123,000.00
				15% General Conditions / Mobilization:	$ 73,800.00
				4% Maintenance of Traffic	$ 19,700.00
				Total Construction Cost:	**$ 708,500.00**
				12% Design Fees (soft costs):	$ 85,100.00
				10% Construction Engineering & Inspection:	$ 70,900.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 864,500.00**
				2022 Cost:	**$ 892,000.00**
				2023 Cost:	**$ 920,000.00**
				2024 Cost:	**$ 944,000.00**
				2025 Cost:	**$ 973,000.00**
				2026 Cost:	**$ 1,005,000.00**

B. West Clifton Road (p.54)

Community Confluence - Priority Projects

OHM Advancing Communities®
OHM Advisors
6001 Euclid Avenue, Suite 130
Cleveland, OH 44103

WEST CLIFTON ROAD INTERSECTION

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Remove Existing 5' Sidewalk	350	LF	$ 10.00	$ 3,500.00
2	10' Shared Use Path	350	LF	$ 100.00	$ 35,000.00
3	New Crosswalks	4	EACH	$ 5,000.00	$ 20,000.00
4	Pedestrian Signalization Improvements	1	LUMP	$ 10,000.00	$ 10,000.00
5	Pavement Re-striping	1	LUMP	$ 5,000.00	$ 5,000.00
6	Drainage	1	LUMP	$ 10,000.00	$ 10,000.00
7	Landscaping	1	LUMP	$ 10,000.00	$ 10,000.00
				Subtotal:	**$ 93,500.00**
				25% Contingency:	$ 23,400.00
				15% General Conditions / Mobilization:	$ 14,100.00
				4% Maintenance of Traffic	$ 3,800.00
				Total Construction Cost:	**$ 134,800.00**
				12% Design Fees (soft costs):	$ 16,200.00
				10% Construction Engineering & Inspection:	$ 13,500.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 164,500.00**
				2022 Cost:	**$ 170,000.00**
				2023 Cost:	**$ 176,000.00**
				2024 Cost:	**$ 180,000.00**
				2025 Cost:	**$ 186,000.00**
				2026 Cost:	**$ 192,000.00**

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6001 Euclid Avenue, Suite 130
Cleveland, OH 44103

WEST CLIFTON BLVD (3,600 LF)

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Remove Existing 5' Sidewalk	3600	LF	$ 10.00	$ 36,000.00
2	10' Wide Shared Use Path	3600	LF	$ 100.00	$ 360,000.00
3	Crosswalks	4	EACH	$ 7,500.00	$ 30,000.00
4	Drainage	1	LUMP	$ 75,000.00	$ 75,000.00
5	Landscaping	1	LUMP	$ 40,000.00	$ 40,000.00
				Subtotal:	**$ 541,000.00**
				25% Contingency:	$ 135,300.00
				15% General Conditions / Mobilization:	$ 81,200.00

Total Construction Cost:	**$ 757,500.00**
12% Design Fees (soft costs):	$ 90,900.00
10% Construction Engineering & Inspection:	$ 75,800.00
4% Maintenance of Traffic	$ 30,300.00
Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 954,500.00**

2022 Cost:	**$ 985,000.00**
2023 Cost:	**$ 1,016,000.00**
2024 Cost:	**$ 1,042,000.00**
2025 Cost:	**$ 1,074,000.00**
2026 Cost:	**$ 1,110,000.00**

C. Riverside Drive (p.56)

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Community Confluence - Priority Projects

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RIVERSIDE DRIVE (WEST CLIFTON TO MADISON) (1400 LF) - SHORT TERM

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Misc. Removal (Marking Removal, Clearing, Demolition)	1400	LF	$ 25.00	$ 35,000.00
2	3' Wide Buffer (stripping & vertical posts)	1400	LF	$ 20.00	$ 28,000.00
3	Pavement Markings and Signage	1400	LF	$ 10.00	$ 14,000.00
4	Pavement Restriping	1400	LF	$ 5.00	$ 7,000.00
				Subtotal:	**$ 84,000.00**
				25% Contingency:	$ 21,000.00
				15% General Conditions / Mobilization:	$ 12,600.00
				4% Maintenance of Traffic	$ 3,400.00
				Total Construction Cost:	**$ 121,000.00**
				12% Design Fees (soft costs):	$ 14,600.00
				10% Construction Engineering & Inspection:	$ 12,100.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 147,700.00**
				2022 Cost:	**$ 153,000.00**
				2023 Cost:	**$ 158,000.00**
				2024 Cost:	**$ 162,000.00**
				2025 Cost:	**$ 167,000.00**
				2026 Cost:	**$ 172,000.00**

RIVERSIDE DRIVE (WEST CLIFTON TO MADISON) (1400 LF) - LONG TERM

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Misc. Removal (Marking Removal, Clearing, Demolition)	1400	LF	$ 25.00	$ 35,000.00
2	Remove Existing Pavement (8' for landscape buffer)	1400	LF	$ 65.00	$ 91,000.00
3	12' Shared Use Path	1400	LF	$ 120.00	$ 168,000.00
4	Concrete Curb	1400	LF	$ 30.00	$ 42,000.00
5	Pavement Markings and Signage	1400	LF	$ 10.00	$ 14,000.00
6	Landscape Buffer (8' wide with 12" topsoil)	1400	LF	$ 50.00	$ 70,000.00
7	Drainage Improvements	1	LUMP	$ 40,000.00	$ 40,000.00
				Subtotal:	**$ 460,000.00**
				25% Contingency:	$ 115,000.00
				15% General Conditions / Mobilization:	$ 69,000.00
				4% Maintenance of Traffic	$ 18,400.00
				Total Construction Cost:	**$ 662,400.00**
				12% Design Fees (soft costs):	$ 79,500.00
				10% Construction Engineering & Inspection:	$ 66,300.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 808,200.00**
				2022 Cost:	**$ 834,000.00**
				2023 Cost:	**$ 860,000.00**
				2024 Cost:	**$ 882,000.00**
				2025 Cost:	**$ 910,000.00**
				2026 Cost:	**$ 940,000.00**

E. Hogsback Lane (p.60)

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RIVERSIDE DRIVE (HILLIARD TO HOGSBACK) (1000 LF) - SHORT TERM

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Remove Existing Striping	1000	LF	$ 5.00	$ 5,000.00
2	Sidewalk Improvements	1000	LF	$ 42.00	$ 42,000.00
3	Pavement Markings and Signage	1000	LF	$ 10.00	$ 10,000.00
4	Erosion Control	1000	LF	$ 6.00	$ 6,000.00
5	Concrete Curb	120	LF	$ 30.00	$ 3,600.00
6	10' Shared Used Path	210	LF	$ 100.00	$ 21,000.00
7	Bikeway Railing	730	LF	$ 45.00	$ 32,850.00

Subtotal:	**$ 120,450.00**
25% Contingency:	$ 30,200.00
15% General Conditions / Mobilization:	$ 18,100.00
4% Maintenance of Traffic	$ 4,900.00
Total Construction Cost:	**$ 173,650.00**
12% Design Fees (soft costs):	$ 20,900.00
10% Construction Engineering & Inspection:	$ 17,400.00
Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 212,000.00**
2022 Cost:	**$ 219,000.00**
2023 Cost:	**$ 226,000.00**
2024 Cost:	**$ 232,000.00**
2025 Cost:	**$ 239,000.00**
2026 Cost:	**$ 247,000.00**

RIVERSIDE DRIVE (HILLIARD TO HOGSBACK) (1000 LF) - LONG TERM

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Misc. Removal (Marking Removal, Clearing, Demolition)	1000	LF	$ 25.00	$ 25,000.00
2	12' Shared Use Path	1000	LF	$ 120.00	$ 120,000.00
3	Bikeway Railing	730	LF	$ 45.00	$ 32,850.00
4	Concrete Curb	1000	LF	$ 30.00	$ 30,000.00
5	Road Re-Striping	1000	LF	$ 10.00	$ 10,000.00
6	Landscape Buffer (8' wide with 12" topsoil)	1000	LF	$ 38.00	$ 38,000.00
7	Drainage Improvements	1	LUMP	$ 95,000.00	$ 95,000.00
				Subtotal:	**$ 350,850.00**
				25% Contingency:	$ 87,800.00
				15% General Conditions / Mobilization:	$ 52,700.00
				4% Maintenance of Traffic	$ 14,100.00
				Total Construction Cost:	**$ 505,450.00**
				12% Design Fees (soft costs):	$ 60,700.00
				10% Construction Engineering & Inspection:	$ 50,600.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 616,800.00**
				2022 Cost:	**$ 636,000.00**
				2023 Cost:	**$ 657,000.00**
				2024 Cost:	**$ 673,000.00**
				2025 Cost:	**$ 694,000.00**
				2026 Cost:	**$ 717,000.00**

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HOGSBACK / RIVERSIDE TRAFFIC CIRCLE

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Misc. Removal (Marking Removal, Clearing, Demolition)	1370	SF	$ 25.00	$ 34,250.00
2	Misc. Pavement Removal (pavement, curbs, excavation)	1000	SF	$ 100.00	$ 100,000.00
3	Erosion Control	1000	SF	$ 13.00	$ 13,000.00
4	Drainage	1000	SF	$ 83.00	$ 83,000.00
5	Traffic Circle Pavement	1000	SF	$ 150.00	$ 150,000.00
6	10' Shared Use Trail	340	LF	$ 100.00	$ 34,000.00
7	Bikeway Railing	305	LF	$ 45.00	$ 13,725.00
8	Pavement Markings and Signage	500	SF	$ 46.00	$ 23,000.00
9	Retaining Wall (with Soldier Pilles)	305	LF	$ 1,920.00	$ 585,600.00
				Subtotal:	**$ 1,036,575.00**
				25% Contingency:	$ 259,200.00
				15% General Conditions / Mobilization:	$ 155,500.00
				4% Maintenance of Traffic	$ 41,500.00
				Total Construction Cost:	**$ 1,492,775.00**
				12% Design Fees (soft costs):	$ 179,200.00
				10% Construction Engineering & Inspection:	$ 149,300.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 1,821,300.00**

2022 Cost:	**$ 1,878,000.00**
2023 Cost:	**$ 1,938,000.00**
2024 Cost:	**$ 1,988,000.00**
2025 Cost:	**$ 2,049,000.00**
2026 Cost:	**$ 2,117,000.00**

Community Confluence - Priority Projects

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HOGSBACK LANE

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Misc. Removal (Marking Removal, Clearing, Demolition)	1800	SF	$ 30.00	$ 54,000.00
2	Misc. Pavement Removal (pavement, curbs, excavation)	7000	SY	$ 20.00	$ 140,000.00
3	Erosion Control	2500	SY	$ 17.00	$ 42,500.00
4	Drainage	1800	LF	$ 75.00	$ 135,000.00
5	New Roadway	1800	LF	$ 200.00	$ 360,000.00
6	Pavement Markings and Signage	1800	LF	$ 15.00	$ 27,000.00
7	10' Shared Use Trail	1800	LF	$ 100.00	$ 180,000.00
8	Bikeway Railing	400	LF	$ 45.00	$ 18,000.00
9	Retaining Wall on North Side of Upper Hogsback	400	LF	$ 2,000.00	$ 800,000.00
10	Retaining Wall on South Side of Middle Section Hogsback	300	LF	$ 1,000.00	$ 300,000.00
11	Retaining Wall on South Side of Lower Section Hogsback	750	LF	$ 550.00	$ 412,500.00
				Subtotal:	**$ 2,469,000.00**
				25% Contingency:	$ 617,300.00
				15% General Conditions / Mobilization:	$ 370,400.00
				4% Maintenance of Traffic	$ 98,800.00
				Total Construction Cost:	**$ 3,555,500.00**
				12% Design Fees (soft costs):	$ 426,700.00
				10% Construction Engineering & Inspection:	$ 355,600.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 4,337,800.00**
				2022 Cost:	**$ 4,473,000.00**
				2023 Cost:	**$ 4,616,000.00**
				2024 Cost:	**$ 4,733,000.00**
				2025 Cost:	**$ 4,881,000.00**
				2026 Cost:	**$ 5,041,000.00**

F. Wooster Road/Hilliard Boulevard/Rockcliff Drive (p.62)

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Community Confluence - Priority Projects

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HILLIARD BLVD

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Remove Existing Sidewalk	2500	LF	$ 15.00	$ 37,500.00
2	Remove Existing Concrete Curb	4000	LF	$ 12.00	$ 48,000.00
3	Remove Existing Pavement (2 12' east bound lanes)	2500	LF	$ 65.00	$ 162,500.00
4	Remove Existing Concrete Drive Aprons	23	EACH	$ 1,500.00	$ 34,500.00
	Misc. Removal (Marking Removal, Clearing, Demolition)	2500	LF	$ 25.00	$ 62,500.00
5	New Concrete Curbs	1500	LF	$ 30.00	$ 45,000.00
6	New Drive Aprons	23	EACH	$ 3,500.00	$ 80,500.00
7	10' Wide Shared Use Path	2500	LF	$ 100.00	$ 250,000.00
8	Mid-Block Crossing	1	EACH	$ 10,000.00	$ 10,000.00
9	Drainage Improvements	1	LUMP	$ 75,000.00	$ 75,000.00
10	Landscaping	1	LUMP	$100,000.00	$ 100,000.00
				Subtotal:	**$ 905,500.00**
				25% Contingency:	$ 226,400.00
				15% General Conditions / Mobilization:	$ 135,900.00
				4% Maintenance of Traffic	$ 36,300.00
				Total Construction Cost:	**$ 1,304,100.00**
				12% Design Fees (soft costs):	$ 156,500.00
				10% Construction Engineering & Inspection:	$ 130,500.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 1,591,100.00**
				2022 Cost:	**$ 1,641,000.00**
				2023 Cost:	**$ 1,693,000.00**
				2024 Cost:	**$ 1,736,000.00**
				2025 Cost:	**$ 1,790,000.00**
				2026 Cost:	**$ 1,849,000.00**

F. Wooster Road/Hilliard Boulevard/Rockcliff Drive (p.62)

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Community Confluence - Priority Projects

WOOSTER / HILLIARD / ROCKCLIFF

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Remove Existing Sidewalk	1000	LF	$ 15.00	$ 15,000.00
2	Remove Existing Concrete Curb	1500	LF	$ 12.00	$ 18,000.00
3	Remove Existing Pavement	10000	SF	$ 7.50	$ 75,000.00
4	Remove Existing Concrete Drive Aprons	6	EACH	$ 1,500.00	$ 9,000.00
	Misc. Removal (Marking Removal, Clearing, Demolition)	1000	LF	$ 25.00	$ 25,000.00
5	New Concrete Curbs	1000	LF	$ 30.00	$ 30,000.00
6	New Drive Aprons	6	EACH	$ 3,500.00	$ 21,000.00
7	10' Wide Shared Use Path	1000	LF	$ 100.00	$ 100,000.00
8	Raised Crosswalk	1	LUMP	$ 25,000.00	$ 25,000.00
9	Drainage Improvements	1	LUMP	$ 35,000.00	$ 35,000.00
10	Landscaping	1	LUMP	$ 50,000.00	$ 50,000.00

Subtotal:	**$ 403,000.00**
25% Contingency:	$ 100,800.00
15% General Conditions / Mobilization:	$ 60,500.00
4% Maintenance of Traffic	$ 16,200.00
Total Construction Cost:	**$ 580,500.00**
12% Design Fees (soft costs):	$ 69,700.00
10% Construction Engineering & Inspection:	$ 58,100.00
Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 708,300.00**
2022 Cost:	**$ 731,000.00**
2023 Cost:	**$ 754,000.00**
2024 Cost:	**$ 773,000.00**
2025 Cost:	**$ 797,000.00**
2026 Cost:	**$ 824,000.00**

G. Wooster Road Overlook (p.64)

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Community Confluence - Priority Projects

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WOOSTER ROAD OVERLOOK

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Overlook Deck Structure with Railing	2000	SF	$ 100.00	$ 200,000.00
2	Pedestrian Plaza	3000	SF	$ 15.00	$ 45,000.00
3	Decorative Plaza Lighting	1	LUMP	$ 75,000.00	$ 75,000.00
4	Site Furnishings	1	LUMP	$ 15,000.00	$ 15,000.00
5	Landscaping	1	LUMP	$ 20,000.00	$ 20,000.00
6	Interpretive Signage	1	LUMP	$ 10,000.00	$ 10,000.00
				Subtotal:	**$ 365,000.00**
				25% Contingency:	$ 91,300.00
				15% General Conditions / Mobilization:	$ 54,800.00
				4% Maintenance of Traffic	$ 14,600.00
				Total Construction Cost:	**$ 525,700.00**
				12% Design Fees (soft costs):	$ 63,100.00
				10% Construction Engineering & Inspection:	$ 52,600.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 641,400.00**
				2022 Cost:	**$ 662,000.00**
				2023 Cost:	**$ 683,000.00**
				2024 Cost:	**$ 700,000.00**
				2025 Cost:	**$ 722,000.00**
				2026 Cost:	**$ 746,000.00**

H. Detroit Road Bridge (p.66)

Community Confluence - Priority Projects

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DETROIT RD BRIDGE (750 LF)

Tuesday, January 12, 2021

No.	Description	Qty.	Unit	Unit Cost	Total
1	Misc. Removal (Marking Removal, Clearing, Demolition)	750	LF	$ 25.00	$ 18,750.00
2	Pedestrian Barrier	1200	LF	$ 85.00	$ 102,000.00
3	3' Cycle Track Buffer (Painted with Wheel Stop Barriers)	725	LF	$ 35.00	$ 25,375.00
4	12' Wide Cycle Track	725	LF	$ 120.00	$ 87,000.00
5	8' Wood Deck Pedestrian Walk Extension	700	LF	$ 250.00	$ 175,000.00
6	10' x 6' Architectural Planters (50' on center)	14	EACH	$ 3,500.00	$ 49,000.00
7	Interpretive Signage	1	LUMP	$ 20,000.00	$ 20,000.00
				Subtotal:	**$ 458,375.00**
				25% Contingency:	$ 114,600.00
				15% General Conditions / Mobilization:	$ 68,800.00
				4% Maintenance of Traffic	$ 18,400.00
				Total Construction Cost:	**$ 660,175.00**
				12% Design Fees (soft costs):	$ 79,300.00
				10% Construction Engineering & Inspection:	$ 66,100.00
				Total 2021 Project Cost Estimate, Including Soft and Hard Costs:	**$ 805,600.00**

2022 Cost:	**$ 831,000.00**
2023 Cost:	**$ 858,000.00**
2024 Cost:	**$ 879,000.00**
2025 Cost:	**$ 907,000.00**
2026 Cost:	**$ 937,000.00**

COMMUNITY CONFLUENCE

CONNECTING THE CITIES OF LAKEWOOD, ROCKY RIVER, AND CLEVELAND METROPARKS

A Transportation For Livable Communities Initiative Planning Study

2021