SAND CREEK ROAD COMPLETE STREETS STUDY

Draft Concept Report

December 2023

VILLAGE OF COLONIE
Incorporated March 2, 1921
"A Place to be Proud of"

CAPITAL REGION
Transportation Council

Engineering and Land Surveying, P.C.

LAnd rt Studio

Acknowledgements

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The Sand Creek Road Complete Streets Study is intended to provide a framework for advancing Complete Streets implementation and connectivity for all modes of transportation in the Sand Creek Road corridor consistent with the Village's vision for the community. The Concept Plan recommendations are conceptual in nature, and do not commit the Village of Colonie, Transportation Council, or the Town of Colonie to funding any improvements. The concepts presented in this report may need to be investigated in more detail before any funding commitment is made. Undertaking additional engineering or other follow-up work will be based upon funding availability.

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APPENDICES

CHAPTER 1: Introduction

The Sand Creek Road Complete Streets Study is being conducted by the Capital Region Transportation Council (formerly known as the Capital District Transportation Committee) and the Village of Colonie to improve the pedestrian, bicycle, and transit experience along a critical transportation link in the Village and Town of Colonie along Sand Creek Road. The Sand Creek Road Complete Streets Study will explore options to evaluate how to best incorporate Complete Streets elements along the Sand Creek Road corridor and improve level of service (LOS) at the intersection of Hunting Road and Computer Drive South.

Complete Streets

Complete Streets are streets designed for all users, all modes of transportation, and all ability levels. They balance the needs of drivers, pedestrians, bicyclists, transit riders, emergency responders, and goods movement based on local context.

- Capital District Complete Streets Design Guide

The purpose of the study is to determine feasible concepts along with an opinion of probable costs that can be used by the Village to prioritize improvements and apply for funding to ultimately design and construct the recommended improvements. This study will identify potential improvements to the Sand Creek Road corridor that would enhance its walkability and bikeability, calm traffic, and improve its appearance, making the area more appealing to everyone.

Study Approach

The main tasks for this study include:

- Data collection and existing conditions assessment
- Development of a project website to share information with stakeholders and the public
- Public engagement
- Development of corridor plans

The study was conducted with input and direction from the SAC, which is comprised of representatives from the Village of Colonie, Transportation Council, Town of Colonie, Albany County, New York State Department of Transportation (NYSDOT), Village Traffic Advisory Committee, South Colonie School District, Sunset Boulevard Neighborhood Association, Capital District Regional Planning Commission (CDRPC), and the Capital District Transportation Authority (CDTA). The purpose of the SAC was the following:

- Provide input and guidance during the life of the study
- Meet with the consultant on, at a minimum, six occasions as described below:
    - Confirm understanding of the scope of work and study area boundaries
    - Confirm study principles and objectives
    - Provide guidance on expected outcomes and measures of effectiveness

    - Provide oversight on the overall study process including the roles and responsibilities of the study partners
    - Review and comment on public information materials
    - Review and comment on recommendations
- Participate in one focus group session and the final public input session
- Review and comment on study deliverables
- Serve as a two-way information conduit for groups they represent

Study Objectives

At the beginning of the study, the SAC developed the following purpose and need statement that was reviewed and refined with the committee and the public. It establishes the framework for the study, and the resulting conclusions and recommendations.

> *"Sand Creek Road is a critical transportation link in the Village and Town of Colonie that is lacking in pedestrian, bicycle, and transit facilities. Pedestrian accommodations are available on limited segments along the north side of the Sand Creek Road, and there is no dedicated bicycle infrastructure along the corridor. During the pandemic, there was an increase in bicycle and pedestrian traffic along the corridor, particularly due to increased use of recreational destinations like Bauer Park, and growth in nearby developments, including the Albany International Airport. Unfortunately, the lack of infrastructure for active transportation modes has created safety concerns for Village and Town residents. The study will develop a plan to implement a Complete Street that is safe and convenient for travel by all modes of transportation by promoting elements that can reduce vehicular speed and congestion, improve safety for bicyclists and pedestrians, and encourage economic growth in the study area."*

The main objectives of the study are to:

- Improve sidewalks and crosswalks for safe accessible pedestrian travel
- Improve bicycle infrastructure to encourage active transportation
- Slow vehicular traffic and create a safer environment
- Enhance the public transportation options to make travel more convenient and accessible
- Enhance the look of the corridor with gateway features and green areas to create a more attractive and sustainable environment

The overall goal of the study is to develop a plan, endorsed by the Village, that will be used to pursue funding opportunities and guide implementation of improvements.

Study Area

The study area consists of a 1.6-mile segment of Sand Creek Road in the Village of Colonie and includes the intersections of Watervliet Shaker Road (Albany County Route 157), South Family Drive, Shaker Run, Hunting Road, Peter Drive, Delafield Drive, Mordella Road, Terry Court, Myers Court, Space Boulevard, Sunset Boulevard, Jo Ann Court, Jodiro Lane, Computer Drive South and Wolf Road (NY Route 910B).

Sand Creek Road is a Village and Town-owned roadway that is a highly traveled route and provides vital links between the Village of Colonie and Town of Colonie (See **Figure 1.1**). There are numerous public points of interest along the corridor, including local businesses, schools, recreation, community service, and religious establishments that impact daily traffic within the study area. A few main points of interest can be seen on the Study Area Map below (See **Figure 1.2**). Several of these points of interest, such as the nearby schools and Bauer Park, are key generators of pedestrian and bicycle traffic along the study corridor.

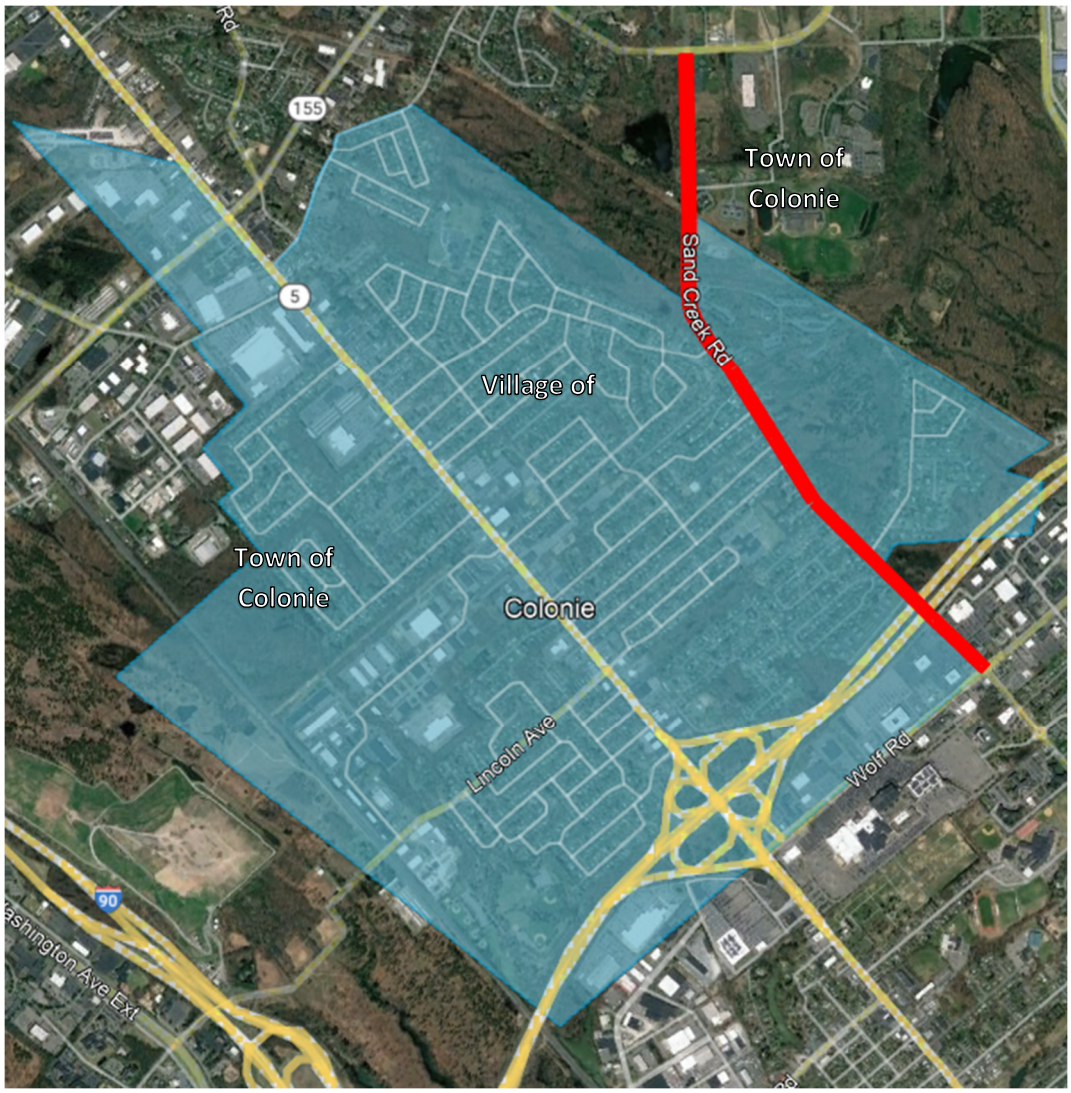


Figure 1.1: Village of Colonie Map

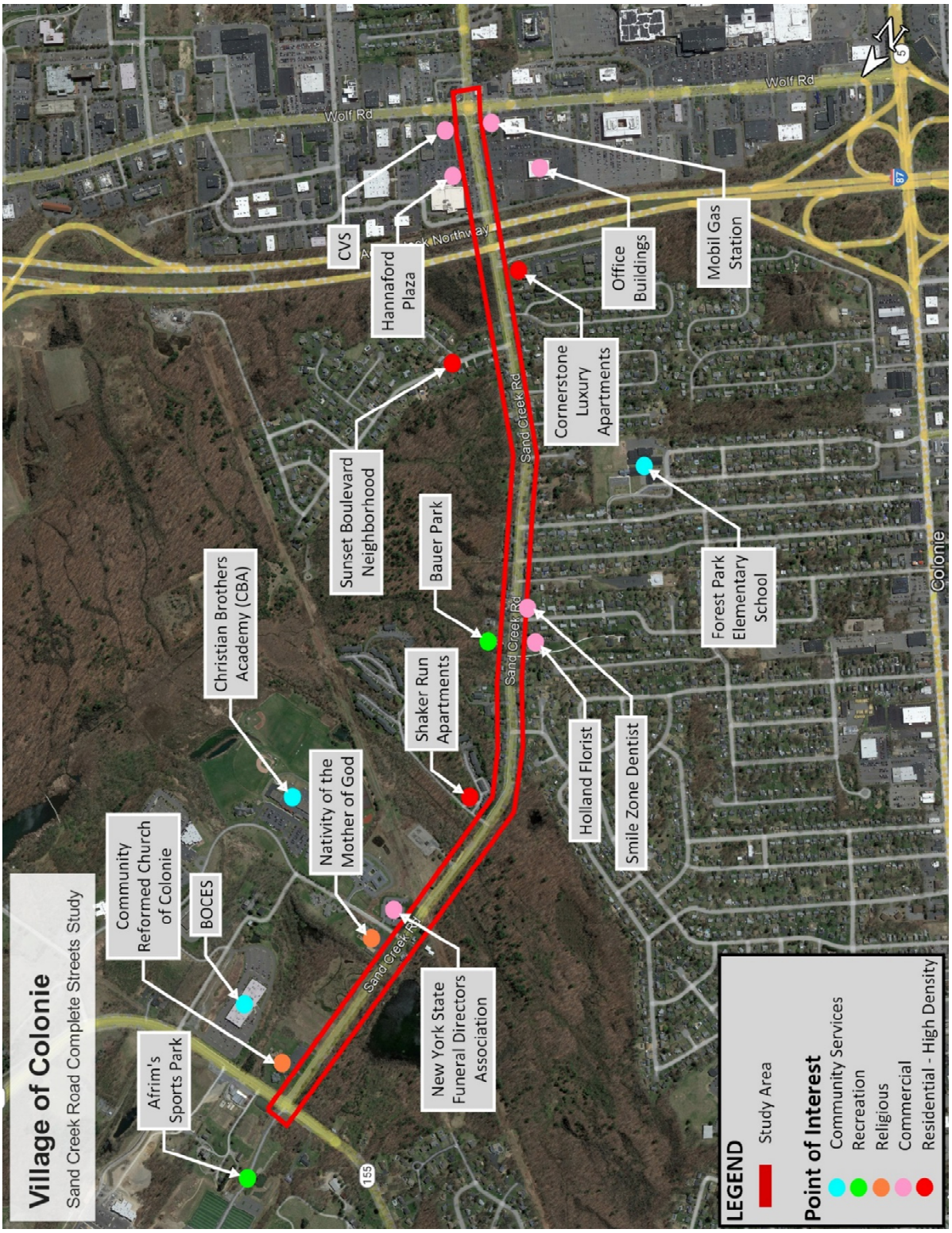


Figure 1.2: Study Area

CHAPTER 2: Existing Conditions

Data Collection

An inventory of the physical characteristics was performed along the length of the study corridor. A site visit was performed on January 10, 2023, to document existing conditions along Sand Creek Road and note conditions for vehicles, transit users, pedestrians, bicyclists, and emergency service vehicles.

Additional existing conditions information was obtained from readily available sources as described throughout the remainder of this memorandum.

Zoning / Land Use

Land use along the Sand Creek Road corridor is primarily Commercial with a few Religious Centers from Watervliet Shaker Road to Shaker Run, Residential and Residential – High Density with a few Commercial parcels from Shaker Run to Computer Drive South, and fully Commercial from Computer Drive South to Wolf Road. There are a several vacant land parcels along Sand Creek Road. The Town of Colonie has several designated zoning overlays. Within the study area, there is a historic and conservation overlay located north of Shaker Run. The zoning and land use maps are illustrated in **Appendix A.**

The Village Code divides the Village into Zoning Districts. Within the study area the following districts are present, Residential A, Residential B, and the Commercial B District. The enumeration of districts and boundaries are described in the Village Code §245-2.

Village Code §245-5 describes in the Residential District A, no building or premises shall be used and no building, structure, or any part of either shall be erected which is arranged, intended, or designed, in whole or in part, for any purpose, except the following uses:

1. One-family dwelling for use by one family.
2. Churches, schools, or public libraries.
3. A farm, truck garden or nursery.
4. Two-family dwellings, subject to the provisions of Subsection F below.
5. A noncommercial playground or park.
6. Accessory apartment in a one-family dwelling, subject to the provisions of Subsection G below.
7. A home occupation in a one-family or two-family dwelling.

Village Code §245-6 describes in the Residential District B, no building or premises shall be used and no building, structure, or any part of either shall be erected which is arranged, intended, or designed, in whole or in part, for any purpose, except the following uses:

1. All uses specified and as regulated in § 242-5 subject to all restrictions, regulations, requirements, and procedures as specified in said section Churches, schools, or public libraries.

2. Multifamily housing.
3. Attached single-family dwellings.

Village Code §245-8 describes in the Commercial District B, no building or premises shall be used and no building, structure, or any part of either shall be erected which is arranged, intended, or designed, in whole or in part, for any purpose, except the following uses:

1. All uses specified and as regulated in § 242-5 subject to all restrictions, regulations, requirements, and procedures as specified in said sections.
2. Retail, professional services, restaurants, entertainment, and similar uses.
3. The sale and service of motor vehicles, mobile homes, recreational vehicle or boats, provided that all service and repair take place in a completely enclosed building.
4. Gasoline stations.
5. Motels, hotels, tourist homes, hospitals, or convalescent homes.
6. Greenhouses, private garages, utility substations and warehouses.

Property Ownership and Right of Way

Properties along the Sand Creek Road corridor are privately and publicly owned within the Town and Village of Colonie with parcels consisting of residential ownership, religious institutions, and the commercial area at the southern end of the corridor. The municipal right-of-way limit is located 50 – 60 feet from the center of the road on either side from Watervliet Shaker Road to Shaker Run Apartments. The municipal right-of-way limits reduce to approximately 20 – 40 feet from the center of the road for the remainder of the corridor. There are a total of 89 parcels that front Sand Creek Road within the study area. The ownership is illustrated on the Property Ownership Map located in **Appendix A**.

Roadway Physical Characteristics

Sand Creek Road Corridor

The Sand Creek Road corridor is in an urban area in the Village and Town of Colonie and serves as a primary route for north-southeast travel. Sand Creek Road has a NYSDOT functional classification of Urban Minor Arterial (16). Of the fifteen intersections in the study area, five (5) are signalized and eleven are stop-controlled on the side street. A description of each intersection is provided at the end of this section.

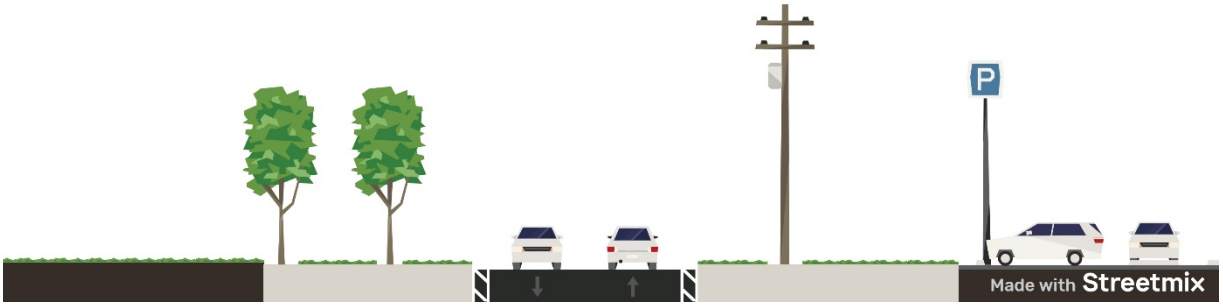
Urban Minor Arterial

Minor Arterials provide service for trips of moderate length, serve geographic areas that are smaller than their higher Arterial counterparts and offer connectivity to the higher Arterial system. In an urban context, they interconnect and augment the higher Arterial system, provide intra-community continuity, and may carry local bus routes.

- FHWA

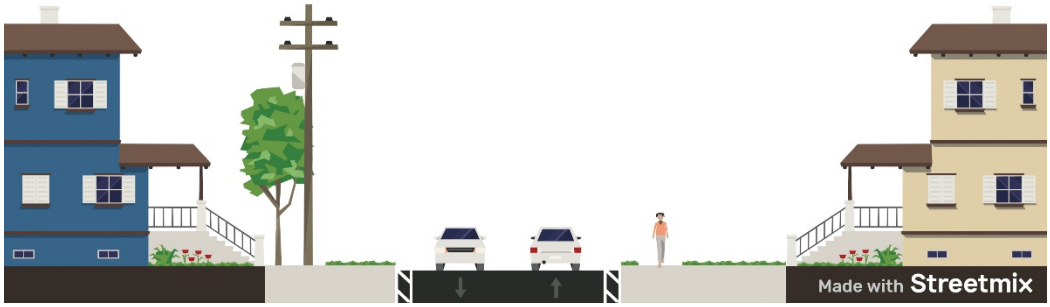
Segment 1 (Watervliet Shaker Road to Shaker Run)

The right-of-way width generally varies from 60 to 90 feet. Land uses include religious centers and commercial buildings. A double yellow center pavement marking is present. The intersections within this segment have pavement markings for turning lanes, as well as stop bars and no crosswalks, except at Watervliet Shaker Road. Recent private development between the intersections of Watervliet Shaker Road and South Family Drive included the installation of sidewalks along the property frontage. Existing sidewalk widths vary from 4 feet to 5 feet within the segment; however, several gaps in the sidewalk continuity exist. In 2009, the Town of Colonie rehabilitated this section of Sand Creek Road utilizing a cold-in-place recycling method with a 1.5" overlay. The posted speed limit along the segment of the corridor is 30 mph.



Segment 2 (Shaker Run to Wolf Road)

The right-of-way width generally varies from 40 to 60 feet. Land uses include residential homes with the exception of the commercial buildings between Computer Drive South and Wolf Road. Sidewalks are present along the east side of Sand Creek Road for the entire length of the segment, with widths varying between 4 and 5 feet. The curbed side of the road has closed drainage to collect roadway runoff. A double yellow center pavement marking is present. Some intersections within this segment have pavement markings for turning lanes, as well as stop bars and crosswalks. The posted speed limit along the segment of the corridor is 30 mph.



A detailed summary of the intersections within the study area is described below.

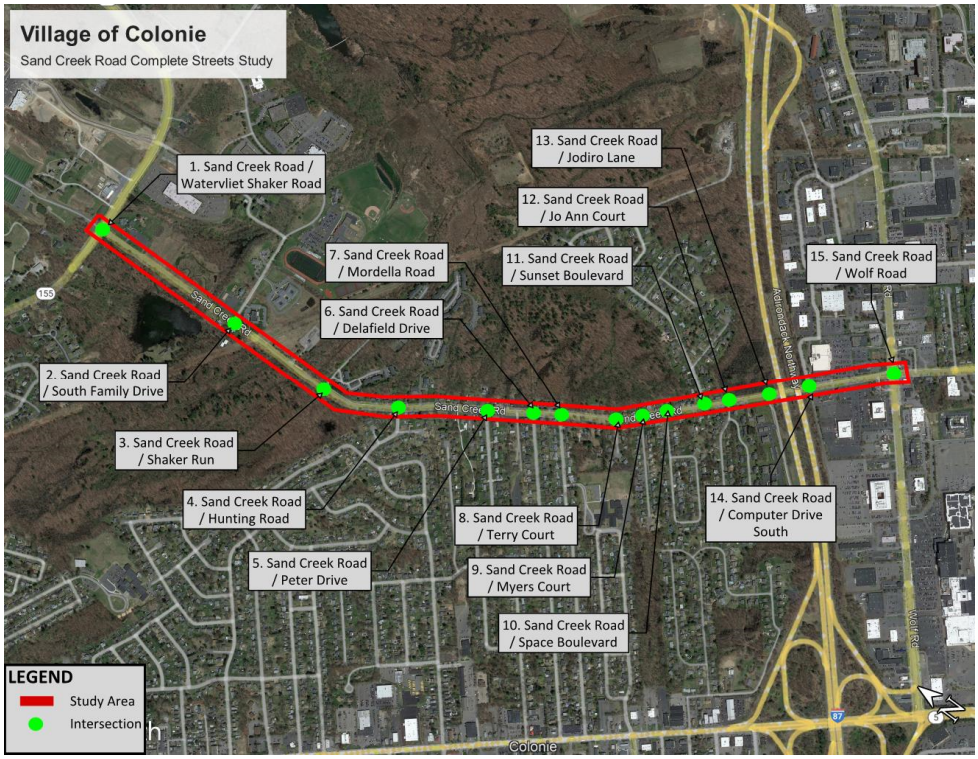
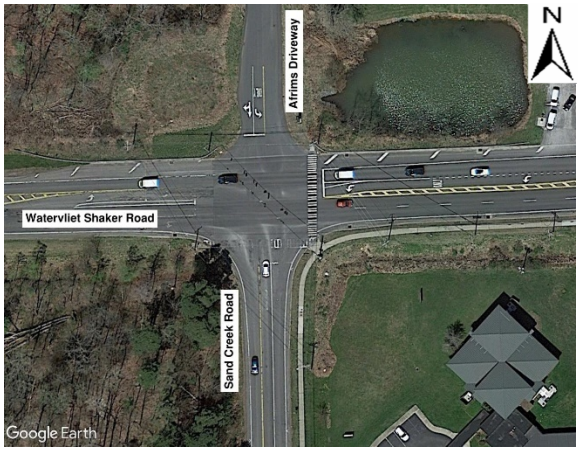


Figure 2.1: Intersection Location Map

Intersection 1: Sand Creek Road and Watervliet Shaker Road

The Sand Creek Road / Watervliet Shaker Road intersection is a signalized intersection located at the northern limit of the study area. The signal is owned by Albany County and maintained by the NYSDOT.

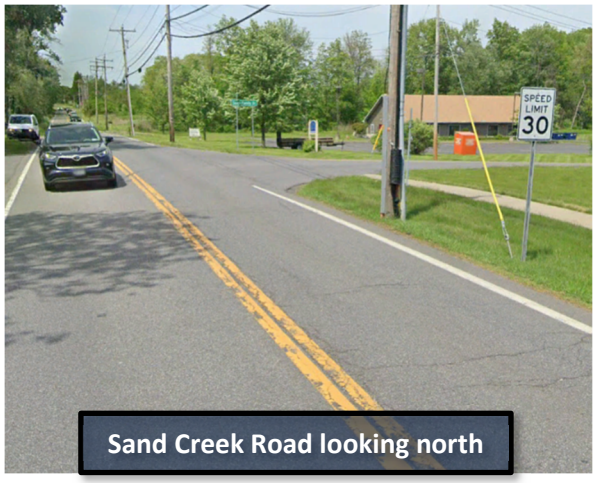


Currently there is a construction project that is underway along Watervliet Shaker Road that includes the intersection of Watervliet Shaker and Sand Creek Road. The work at the intersection consists of traffic signal improvements, additional travel lanes, ending a multi-use path at the southwest corner of the intersection and pavement rehabilitation. The limits of work for this project end along Sand Creek Road end at the south most driveway entrance to the Community Reformed Church of Colonie.

The proposed southbound approach (Afrim's Driveway) consists of a 10-foot through right lane and a 10-foot left turn only lane. The eastbound and westbound approaches on Watervliet Shaker Road consists of three lanes, an 11-foot left turn only lane, a 11-foot through lane and a 11-foot through/right lane. The northbound Sand Creek Road approach consists of three lanes, two left turn only lanes and a through/right lane. There are crosswalks across the westbound and northbound approaches.

Intersection 2: Sand Creek Road and South Family Drive

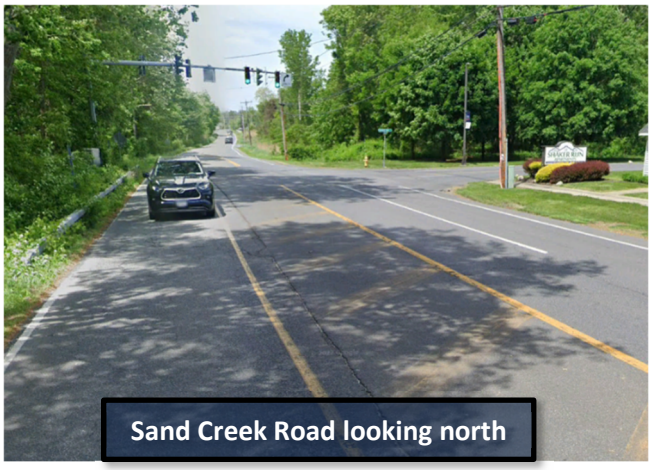
The Sand Creek Road / South Family Drive intersection is an unsignalized intersection located at the northern limits of the study area, with South Family Drive being stop-controlled.



The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The South Family Drive approach is stop-controlled and consists of one 11-foot shared left/right turn lane. There are no marked crosswalks at the intersection.

Intersection 3: Sand Creek Road and Shaker Run

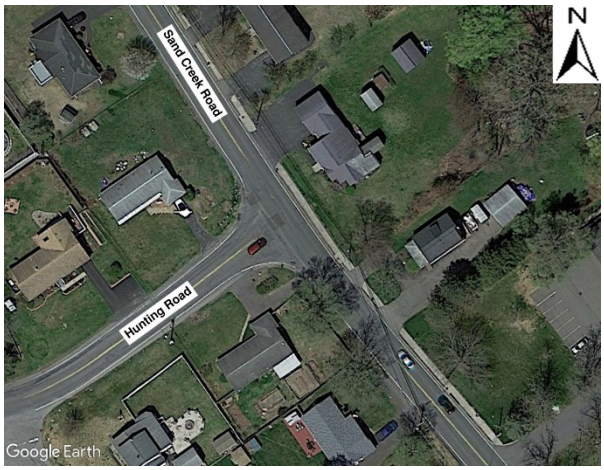
The Sand Creek Road / Shaker Run intersection is a signalized intersection located in the middle of the study area. The signal is owned and maintained by the Village of Colonie.



The southbound approach on Sand Creek Road consists of two 11-foot lanes, a through lane and a left turn only lane. The Shaker Run approach consists of two 12-foot lanes, a left turn only and a right turn only lane. The northbound approach on Sand Creek Road consists of two 11-foot lanes, a through lane and a right turn only lane. There are no marked crosswalks at the intersection.

Intersection 4: Sand Creek Road and Hunting Road

The Sand Creek Road / Hunting Road intersection is an unsignalized intersection located in the middle of the study area, with Hunting Road being stop-controlled.



The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Hunting Road approach is stop-controlled and consists of a single 11-foot shared left/right turn lane. Hunting Road is frequently utilized by residents and commuters as a connection to Central Avenue. There are no marked crosswalks at the intersection.

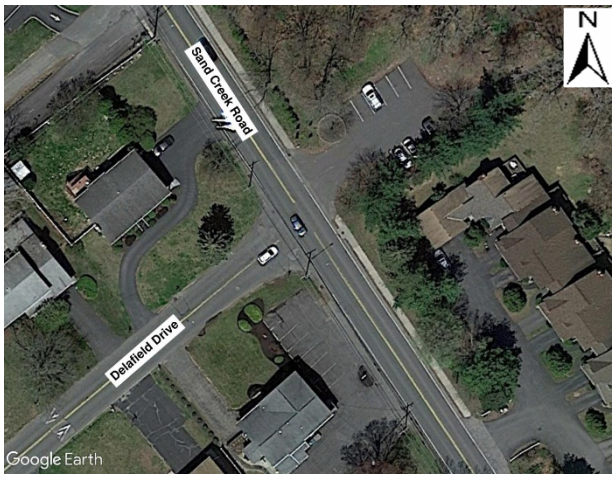
Intersection 5: Sand Creek Road and Peter Drive

The Sand Creek Road / Peter Drive intersection is an unsignalized intersection located in the middle of the study area, with Peter Drive being stop-controlled.

The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Peter Drive approach is stop-controlled and consists of a single 12-foot shared left/right turn lane. There are no marked crosswalks at the intersection.

Intersection 6: Sand Creek Road and Delafield Drive

The Sand Creek Road / Delafield Drive intersection is an unsignalized intersection located in the middle of the study area, with Delafield Drive being stop-controlled.



The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Delafield Drive approach is stop-controlled and consists of a single 11-foot shared left/right turn lane. Delafield Drive is frequently utilized by residents and commuters as a connection to Central Avenue. There are no marked crosswalks at the intersection.

Intersection 7: Sand Creek Road and Mordella Road

The Sand Creek Road / Mordella Road intersection is an unsignalized intersection located in the middle of the study area, with Mordella Road being stop-controlled.

The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Mordella Road approach is stop-controlled and consists of a single 11-foot shared left/right turn lane. Mordella Road is frequently utilized by residents and commuters as a connection to Central Avenue. There are no marked crosswalks at the intersection.

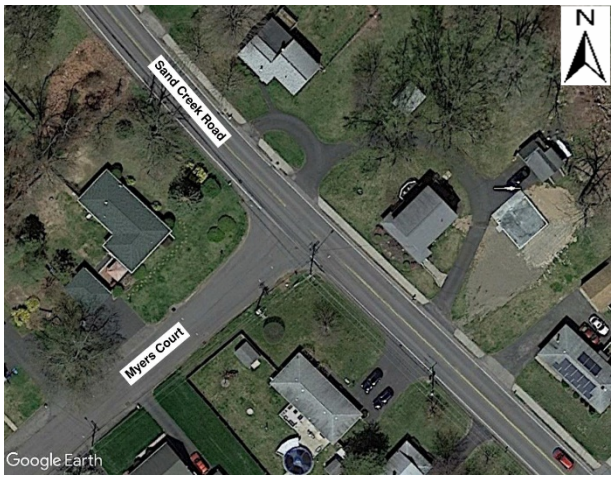
Intersection 8: Sand Creek Road and Terry Court

The Sand Creek Road / Terry Court intersection is an unsignalized intersection located in the middle of the study area, with Terry Court being stop controlled.

The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Terry Court approach is stop-controlled and consists of a single 11-foot shared left/right turn lane. There are no marked crosswalks at the intersection.

Intersection 9: Sand Creek Road and Myers Court

The Sand Creek Road / Myers Court intersection is an unsignalized intersection located in the middle of the study area, with Myers Court being stop-controlled.



The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Myers Court approach is stop-controlled and consists of a single 11-foot shared left/right turn lane. There are no marked crosswalks at the intersection.

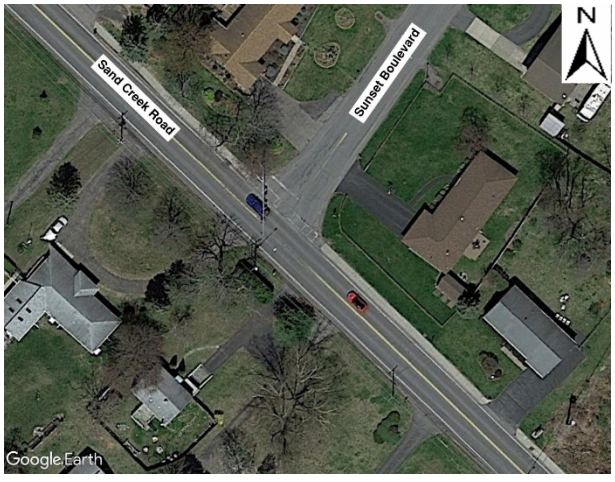
Intersection 10: Sand Creek Road and Space Boulevard

The Sand Creek Road / Space Boulevard intersection is an unsignalized intersection located in the middle of the study area, with Space Boulevard being stop-controlled.

The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Space Boulevard approach is stop-controlled and consists of a single 11-foot shared left/right turn lane. There are no marked crosswalks at the intersection.

Intersection 11: Sand Creek Road and Sunset Boulevard

The Sand Creek Road / Sunset Boulevard intersection is a signalized intersection located in the middle of the study area. The signal is owned and maintained by the Village of Colonie.



The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Sunset Boulevard approach consists of a single 11-foot shared turn left/right lane. There is a marked crosswalk in poor condition along the Sunset Boulevard approach.

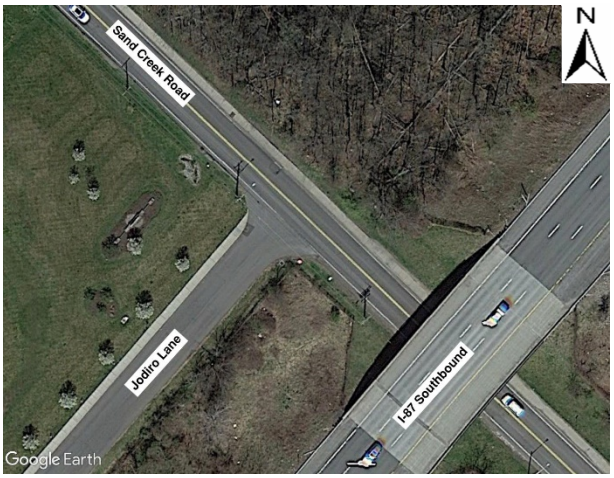
Intersection 12: Sand Creek Road and Jo Ann Court

The Sand Creek Road / Jo Ann Court intersection is an unsignalized intersection located in the middle of the study area, with Jo Ann court being stop-controlled.

The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Jo Ann Court approach is stop-controlled and consists of a single 11-foot shared left/right turn lane. There are no marked crosswalks at the intersection.

Intersection 13: Sand Creek Road and Jodiro Lane

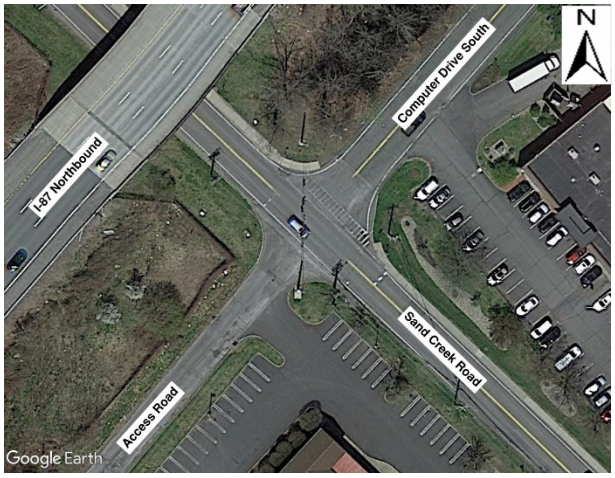
The Sand Creek Road / Jodiro Lane intersection is an unsignalized intersection located in the middle of the study area, with Jodiro Lane being stop controlled.

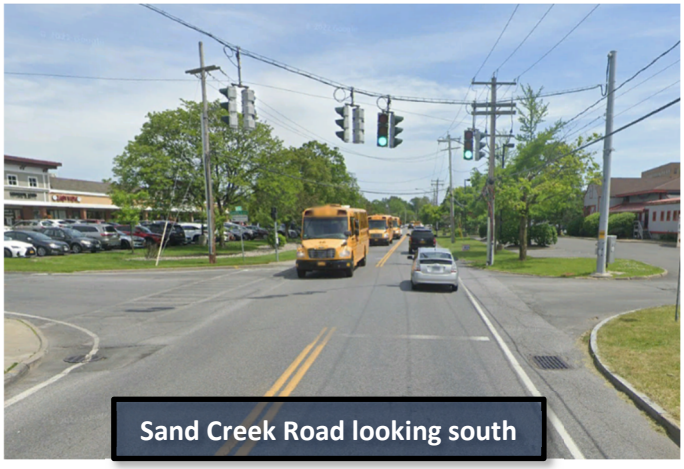


The southbound and northbound approaches on Sand Creek Road consist of one 11-foot lane in either direction. The Jodiro Lane approach is stop-controlled and consists of a single 11-foot shared left/right turn lane. There are no marked crosswalks at the intersection.

Intersection 14: Sand Creek Road and Computer Drive South

The Sand Creek Road / Computer Drive South intersection is a signalized intersection located at the southern limit of the study area. The signal is owned and maintained by the Town of Colonie.

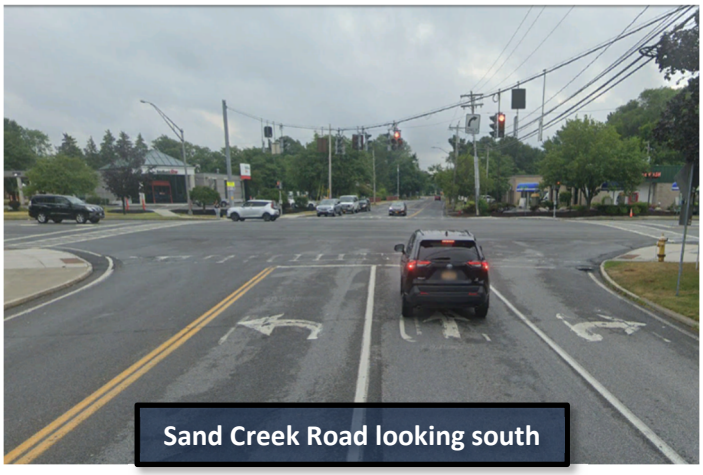




The southbound and northbound approaches on Sand Creek Road consist of a single 11-foot shared left/through/right lane. The eastbound and westbound approaches on Computer Drive South consist of a single 11-foot left/through/right lane. This intersection sees substantial peak-hour traffic due to adjacent commercial and office spaces. There is a marked crosswalk along the Computer Drive South westbound approach of the intersection in poor condition.

Intersection 15: Sand Creek Road and Wolf Road

The Sand Creek Road / Wolf Road intersection is a signalized intersection located at the southern limit of the study area. The signal is owned and maintained by the NYSDOT.



The southbound and northbound approaches on Sand Creek Road consist of three 11-foot lanes, a left turn only, through only and a right turn only lane. The eastbound and westbound approaches on Wolf Road consist of four 11-foot lanes, a left turn only lane, two through only lanes and a right turn only lane. There are marked crosswalks along all approaches to the intersection.

A summary of the existing roadways within the study area is provided in **Table 2.1** below.

Table 2.1: Summary of Roadways within Study Area

Roadway Name	Functional Class[1]	Number of Lanes	Lane Width	Shoulder Width
Sand Creek Road	16	1	11'	0' – 2'
Watervliet Shaker Road	14	2	11' – 12'	0' – 4'
South Family Drive	19	1	11'	0' – 1'
Shaker Run	19	1	11'	0' – 1'
Hunting Road	19	1	11'	0' – 2'
Peter Drive	19	1	12'	0' – 2'
Delafield Drive	19	1	11'	0' – 2'
Mordella Road	19	1	11'	0' – 2'
Terry Court	19	1	11'	0' – 2'
Myers Court	19	1	11'	0' – 2'
Space Boulevard	19	1	11'	0' – 2'
Sunset Boulevard	19	1	11'	0' – 2'
Jo Ann Court	19	1	11'	0' – 2'
Jodiro Lane	19	1	12'	0' – 2'
Computer Drive South	19	1	16'	0' – 2'
Wolf Road	14	2	12'	2' – 4'

Notes:

1. Functional Classes: 14 – Urban Principal Arterial, 16 – Urban Minor Arterial, 19 – Urban Local Road

Pedestrian Accommodations

Sidewalks and Crosswalks

In general, concrete sidewalks are located on the eastern side of Sand Creek Road throughout most of the study area. There are no sidewalks on the western side of Sand Creek Road. The widths vary between 4 feet and 5 feet. The sidewalks are in disrepair in several locations along the corridor. Curb ramps are present at each intersection pedestrian crossing location; however, most do not meet ADA standards due to at least one of the following elements:

- running grade
- cross slope
- detectable warning units or;
- exit/enter grades of the roadway versus ramp exceeds ¼-inch.

Striped pedestrian crosswalks are present at a few intersections requiring pedestrian crossing, but existing crosswalks are in poor condition, where the striping has some wear to it and less than optimum reflectivity. There are no crosswalks across Sand Creek Road between Watervliet Shaker Road and Wolf Road.

Pedestrian Signal Equipment

The pedestrian signal equipment at each signalized intersection varies and is summarized below:

Sand Creek Road and Watervliet Shaker Road

Accessible pedestrian crossings will be installed on the south and east approaches to the intersection as a part of the ongoing Watervliet Shaker Road reconstruction project, which is expected to be completed in the Fall of 2024. The current existing conditions are summarized below.

- Northeast Quadrant (to cross Watervliet Shaker Road)
    - Pedestrian pole with hand/man and countdown timers. There is no pushbutton or sign, and the signals are currently covered.
- Northwest Quadrant (to cross Sand Creek Road or Watervliet Shaker Road)
    - No pedestrian signal equipment to cross Sand Creek Road or Watervliet Shaker Road.
- Southwest Quadrant (to cross Sand Creek Road)
    - One accessible pedestrian signal (APS) with push button and one (1) sign on the same pedestrian signal pole.
- Southeast Quadrant (to cross Sand Creek Road or Watervliet Shaker Road)
    - Two (2) pedestrian signals on the same traffic signal pole to cross either Sand Creek Road or Watervliet Shaker Road.
    - There is also a push button and sign to cross Sand Creek Road mounted on the same traffic signal pole. There is a push button post to cross Watervliet Shaker Road and is currently covered and not functional.

Sand Creek Road and Shaker Run

- There are no pedestrian signals present at this intersection.

Sand Creek Road and Sunset Boulevard

- There are no pedestrian signals present at this intersection.

Sand Creek Road and Computer Drive South

- Northeast and Northwest Quadrant (to cross Computer Drive South)
    - One APS with push button and one (1) sign on the same pedestrian signal pole. This push button does not appear to be in working order.
- Southwest and Southeast Quadrant (to cross either Computer Drive South or Sand Creek Road)
    - No pedestrian signal equipment to cross Computer Drive South or Sand Creek Road.

Sand Creek Road and Wolf Road

- Northeast / Northwest / Southeast / Southwest Quadrant (to cross either Wolf Road or Sand Creek Road)
    - Two (2) pedestrian signals with push buttons on the same pedestrian signal pole to cross either Sand Creek Road or Wolf Road at each corner.

Pedestrian Amenities

No pedestrian amenities, such as benches, trash receptacles, wayfinding signage, or other amenities currently exist along Sand Creek Road within the study area.

Bicycle Routes and Accommodations

There are currently no bicycle routes or accommodations along the entirety of Sand Creek Road. The minimal shoulder width along the majority of the corridor requires bicyclists to share the road in the travel lane.

Sand Creek Road is designated as a priority road on the Transportation Council's Bike Pedestrian Priority Network. Roadways on this network connect major activity generators in the area, creating the need for pedestrian and bicycle travel accommodations. Pedestrian and bicycle improvements projects proposed on this network are prioritized for funding by the Transportation Council.

A multi-use path is currently being constructed along the eastbound side of Watervliet Shaker Road from New Karner Road to Sand Creek Road and will be considered an off-road segment of the Albany Loop Trail.

CDPHP Cycle! is a bike sharing program offered through CDTA in partnership with CDPHP aimed to enhance the Capital Region's transportation options. The hubs, which operate from April to November every year, are located in Albany, Cohoes, Saratoga Springs, Schenectady, Troy, Glens Falls, Queensbury, and Lake George. The closest hub locations to the study area are the TRU Hotel (1.2 miles) and the Desmond Hotel (1.1 miles) in the Town of Colonie.

Freight

Sand Creek Road for the entirety of the study area does not fall under the National Highway System as an Access Highway. The Village of Colonie has implemented a 4-ton weight-limit for heavy vehicles along Sand Creek Road.

The average truck percentage is 5%, split equally between the northbound and southbound travel directions. Low average truck volumes are typically considered to be less than 2%.

Access Highway

A highway designated for use by STAA vehicles and 53' trailers. These vehicle combinations may not travel off the access highway for any distance.

- NYSDOT Official Description of Designated Qualifying and Access Highways in New York State

Transit

The CDTA operates two (2) bus routes that pass through the study area, CDTA Route 155 & 807.

CDTA Route 155 runs from Crossgates Mall to Watervliet Shaker Road and Heritage Lane. The bus route has no stops within the study area. The closest stops to the study area are located at Airline Drive and Christian Brothers Academy.

CDTA Route 807 runs from the Christian Brothers Academy to North Pearl Street in downtown Albany. The bus route has no stops within the study area. The closest stops to the study area are located at Wolf Road and Newbury Plaza.

CDTA's FLEX transit program, launched in 2020, operates similar to a ridesharing program by allowing users to choose a time and location to be picked up within their designated service areas. Flex runs Monday through Saturday from 6:00 AM to 10:45 PM and Sunday from 10:00 AM to 6:00 PM. The Southern Saratoga service area was recently added and runs Monday through Friday from 7:00 AM to 8:00 PM and Saturday and Sunday from 10:00 AM to 6:00 PM. Sand Creek Road is located within the CDTA Flex service area.

Parking

Currently there is no on-street parking available along Sand Creek Road for the entirety of the study area. Adjacent to Sand Creek is mostly residential neighborhoods and commercial areas. In the middle of the study area there is a parking lot to Bauer Park, across from Delafield Drive. At the southern end of the study area limits near Wolf Road, there are several public parking lots for the adjacent businesses and shopping centers.

Existing Traffic Data

Existing traffic data for the corridor was obtained from a 72-hour automatic traffic recorder (ATR) volume count summarized in **Table 2.2** below. The ATR counts were conducted from Monday, February 13th to Friday, February 17th and adjusted for seasonal variation. The full 72-hour counts analyzed were from Tuesday to Thursday. Existing traffic data for the side streets to the study corridor was obtained from the NYSDOT Traffic Data Viewer and is also summarized in **Table 2.2** below. If information was not available on a particular street, it has been omitted from the table.

Table 2.2: Traffic Summary of Roadways within Study Area

Roadway Name	Functional Class[2]	AADT[1]	Calculation Year	Truck AADT[1]	Truck Percentage
Sand Creek Road	16	10,114	2023	507	5%
Watervliet Shaker Road (East)	14	11,175	2015	571	5%
Watervliet Shaker Road (West)	14	16,208	2017	486	3%
Terry Court	19	230	2019	19	8%
Wolf Road	14	26,018	2019	538	2%

1. AADT – Average Annual Daily Traffic
2. Functional Classes: 14 – Urban Principal Arterial, 16 – Urban Minor Arterial, 19 – Urban Local Road

Existing speed data for Sand Creek Road was obtained from the ATR data collection and is summarized in **Table 2.3** below. Existing speed data for the side streets to the study corridor was obtained from the NYSDOT Traffic Data Viewer and is also summarized in **Table 2.3** below. If information was not available on a particular street, it has been omitted from the table.

Table 2.3: Speed Data				
Roadway Segment	**Posted Speed Limit**	**Average Speed**	**85th Percentile Speed[1]**	**Year Data Was Obtained**
Sand Creek Road	30	34	38	2023
Wolf Road	40	33	43	2017

1. The 85th percentile speed is defined as the speed at or below which 85 percent of all vehicles are observed to travel under free-flowing conditions past a monitored point.

Existing Traffic Analysis

Study Methodology

The traffic data collected by MJ Engineering & Land Surveying, was provided to the Transportation Council to aid with the development of the existing traffic model. A traffic model was developed for the corridor utilizing the traffic analysis software Synchro 11©, which is an industry standard design and analysis package. The software analyzes traffic conditions at intersections to provide a measure of effectiveness in terms of Level of Service (LOS). Procedures for the analysis are in conformance with the Transportation Research Board of the National Academies Highway Capacity Manual, 6th Edition. Intersection LOS is defined in terms of average delay per vehicle. The New NYSDOT Highway Design Manual (HDM), Section 5.2.3.4, describes LOS as "a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Levels of service are given letter designations, from A to F, with LOS A representing the best operating condition and LOS F the worst."

Table 2.4: Intersection Level of Service (LOS) Ranges			
Level of Service	**Unsignalized Intersection Delay (sec/veh)**	**Signalized Intersection Delay (sec/veh)**	**Description**
A	≤ 10	≤ 10	Excellent
B	> 10 & ≤ 15	> 10 & ≤ 20	Very Good
C	> 15 & ≤ 25	> 20 & ≤ 35	Good
D	> 25 & ≤ 35	> 35 & ≤ 55	Acceptable
E	> 35 & ≤ 50	> 55 & ≤ 80	Poor
F	> 50	> 80	Failing

Intersection design practice, as determined by the NYSDOT, strives to provide a minimum LOS D or better for each lane group in urban areas and a minimum LOS C in rural areas. Although LOS D is acceptable in urban environments, LOS C is the preferred minimum for overall approach LOS.

Based on the feedback from the Village and Study Advisory Committee, the LOS of the Hunting Road and Computer Drive South intersections with Sand Creek needed to be evaluated based on lengthy, or perceived lengthy delays. To support this analysis, traffic movement counts were collected at those two (2) intersections only. The other 13 intersections within the study area are not included in this traffic analysis.

The existing traffic counts were conducted on Tuesday March 7th, 2023, for the AM peak hour and the PM peak hour. The turning movement data was collected for two (2) hours for the AM and the PM peak hours, at 8:00 AM to 10:00 AM and 5:00 PM to 7:00 PM, respectively. Based on the data collected, the peak hour periods for AM and PM are as shown below:

- AM Peak: 8:00 – 9:00 AM
- PM Peak: 5:00 – 6:00 PM

Other signalized intersections along the Sand Creek Corridor were not evaluated based on feedback from the Village. The existing turning movement counts and turning movement figures are presented in **Appendix B**.

Results

The intersection capacity analysis results are summarized below in **Table 2.5**.

At Sand Creek Road and Hunting Road, under existing conditions, the lanes operate at LOS C or better for all approaches to the intersection for the AM and PM peak periods. Although the intersection is a 3-way T-intersection that is stop-controlled on the minor street, it is referred to as a two-way stop-controlled intersection by industry standards. The intersection does not have an overall intersection delay. However, the worst delay occurs along the stop-controlled eastbound approach with an existing LOS B with 13.5 seconds of delay for the AM peak hour and LOS C with 16.5 seconds of delay for the PM peak hour.

At Sand Creek Road and Computer Drive South, under existing conditions, the lanes operate at LOS C or better for all approaches to the intersections for the AM and PM peak periods. The overall existing intersection operates at LOS A with 6.5 seconds of delay during the AM peak hour and LOS B with 16.0 seconds of delay during the PM peak hour.

The Synchro output files are presented in **Appendix B**.

Table 2.5: Existing LOS Table (Delay in Seconds)

No.	Location	Approach	Movement	Existing AM	Existing PM
1	Sand Creek Road / Hunting Road	Eastbound	Left / Right	B (13.5)	C (16.5)
		Northbound	Left	A (8.3)	A (8.3)
2	Sand Creek Road / Computer Drive South	Eastbound	Left / Thru / Right	B (16.1)	B (19.7)
		Northbound	Left / Thru / Right	A (4.8)	A (6.2)
		Westbound	Left / Thru / Right	B (16.8)	C (22.8)
		Southbound	Left / Thru / Right	A (6.0)	C (21.2)
			Overall Intersection	**A (6.5)**	**B (16.0)**

Observed Traffic Conditions

Although modeling indicates that the intersections operate at acceptable level of services, continuous streams of traffic during peak times make left turns onto and off of Sand Creek Road difficult, causing large queues to form at Computer Drive South and Hunting Road.

Trucks over 4 tons are not permitted on Sand Creek Road within the Village limits. However, there are no warning signs prior to turning onto the road or logical turnarounds, so truck traffic still utilizes the route.

Residents have complained of truck traffic and speeding issues along the corridor. Several accidents occurred in the vicinity of the Village sign between Shaker Run and Hunting Road due to the unexpected bend in the road. This issue appears to have been mitigated since the speed limit reduction.

Pedestrian and Bicycle Counts

Pedestrian and bicycle counts were collected by John Gillivan, of the Village of Colonie Traffic Advisory Committee. The counts were taken on three (3) separate days, at various times and locations along Sand Creek Road; June 30, 2023, from 9:30 AM to 10:45 AM at the Hunting Road intersection, July 1, 2023 from 11:30 AM to 12:15 PM at the Sunset Boulevard Intersection, and July 5, 2023 from 7:45 PM to 9:00 PM between Jo Ann Court and Delafield Drive. The weather conditions for all three (3) counts were warm, sunny, dry days with steady traffic. The results are summarized in **Table 2.6** below. No wheeled, non-motorized devices were observed during the counts.

Table 2.6: Pedestrian & Bicycle Counts

	June 30, 2023			July 1, 2023			July 5, 2023		
	SB	NB	Total	SB	NB	Total	SB	NB	Total
Pedestrians (on road)	0	0	**0**	2	0	**2**	0	0	**0**
Pedestrians (on sidewalk)	0	0	**0**	5	0	**5**	3	5	**8**
Bicyclists (on road)	0	3	**3**	0	0	**0**	0	0	**0**
Bicyclists (on sidewalk)	2	0	**2**	1	0	**1**	1	2	**3**

Crash History

Crash data was provided by the Transportation Council for the most recent five years of available data (August 1, 2017, to July 31, 2022). Crash data was examined on Sand Creek Road, from Watervliet Shaker Road to Wolf Road. Crashes on side-streets that occurred within 100 feet of the intersections were also examined. A summary of crash data received is located in **Appendix C**.

Of the 181 reported crashes within the study area, seven (7) crashes involved pedestrians and one (1) involved a bicycle. Of these eight (8) crashes, there were five (5) reported with injuries. One crash within the study area was a fatal crash. The fatal crash occurred on February 10th, 2019, between two motor vehicles at 12:05 P.M. on Sunset Boulevard. 75 out of the 181 crashes along Sand Creek Road were reported as rear-end crashes, making up approximately 40% of the crashes recorded.

The crash rate was 1.40 accidents per million vehicle miles (ACC/MVM) for Sand Creek Road within the study area. The NYSDOT average crash rate is 2.32 ACC/MVM for undivided two-lane roadway sections. Since AADT data was not available in the NYSDOT Traffic Data Viewer for the majority of side streets adjacent to Sand Creek Road, the intersection crash rates could not be calculated and have been omitted from this report.

Environmental Resources

Introduction

Per federal requirements, the Transportation Council undertakes an Environmental Features Scan in all Community and Transportation Linkage Planning Program (Linkage Program) initiatives. The Environmental Features Scan identifies the location of environmentally sensitive features, both natural and cultural in relation to project study areas. Although the conceptual planning stage is too early in the transportation planning process to identify specific potential impacts to environmentally sensitive features, the early identification of environmentally sensitive features is an important part of the environmental mitigation process. It should also be noted here that as specific projects advance through the project development process, the applicable NEPA and SEQRA regulations requiring potential environmental impact identification, analysis and mitigation will be followed by the implementing agencies as required by federal and state law. The Transportation Council is not an implementing agency.

Aquifers

The study area is located within the Schenectady – Niskayuna Sole Source Aquifer.

Water Features

Stump Pond is located along the west side of Sand Creek Road, just north of the intersection with South Family Drive.

Wetlands

Two (2) state-regulated wetlands are located within the study area. Wetland A-7, which is approximately 113.2 acres, is located along the west side of Sand Creek Road between Watervliet Shaker Road and Hunting Road. Wetland A-10, which is approximately 299.4 acres, is located along the east side of Sand Creek Road between Shaker Run and Computer Drive South.

Rare Animal Populations

A review of the NYSDEC Environmental Resource Mapper (ERM) indicates that the study area is located within the vicinity of animals listed as endangered or threatened.

Historic and Cultural Resources

The study area is located within the Watervliet Shaker Historic District. The northern project limits from Watervliet Shaker Road to approximately 400 feet north of Shaker Run are located within the historic district.

NY Protected Lands

Bauer Park is a protected public open space, owned and maintained by the Village of Colonie. Lands classified as protected open spaces are permanently protected from development.

Soils

The study area contains Class I and Class II soils. These soils appear in the northern end of the study as well as a small area north of Jodiro Lane. Class I soils consist of medium to well-graded sands and clayey sands. Class II soils include medium to well-graded sandy clays and sandy silts and clays with some mica. These soils generally have low volume change properties and good densities, to serve well as subgrade material.

A map of the above-mentioned features, as well as a list of all features scanned, can be found in **Appendix D**.

Environmental Justice & Limited English Proficiency

An Environmental Justice scan and a Limited English Proficiency scan was performed by the Transportation Council using data from the 2013-2017 American Community Survey (ACS). Threshold values were assigned at the census tract level to identify geographic areas with significant populations of minority or low-income persons. Tracts with higher than the regional average percentage of low-income or minority residents are identified as Environmental Justice populations. A full analysis of the data obtained, as well as figures illustrating Environmental Justice Populations and the Limited English Proficiency populations, is located in **Appendix E.**

CHAPTER 3: Past Planning Efforts

The Village of Colonie, in cooperation with State and local agencies, has completed a series of planning efforts that support revitalization and community growth within the Village. The studies and plans relevant to the Sand Creek Road Complete Streets Study area are summarized below.

MASTER PLAN (*Village of Colonie, 2003*)

In 2003, the Village of Colonie updated their Master Plan, originally established in 2001 by the Village Master Plan Advisory Committee. The Village of Colonie Master Plan identifies and examines a comprehensive list of existing conditions, while blending data analysis with the future needs of the community to create and establish goals, recommendations, and actions from which to construct a new future for the Village.

Relevant Recommendations:

- Continue to maintain, enhance, and expand the sidewalk and trail system that connects residential and commercial areas throughout the Village.
- Improve traffic safety for pedestrians through the use of various traffic calming devices such as narrowing the streets, curb bump-outs, vegetated buffer strips to protect pedestrians and more.
- For Delafield Drive, Mordella Road, and Hunting Road, three phases of recommendations are provided:
    - Phase 1: Install double yellow centerline markings *(completed)* & install stop signs are various intersection to deter traffic.
    - Phase 2: Install a portable speed-monitoring device and speed humps.
    - Phase 3: Dead-end roads south of Sand Creek Road.

DESIGN GUIDELINES (*Village of Colonie, 2006*)

In 2006, the Village of Colonie and the Capital District Transportation Committee (known as the Capital Region Transportation Council) partnered through the Transportation Council's Linkage Planning Program to create design guidelines for the NYS Route 5 (Central Avenue) corridor and other commercial properties within the Village of Colonie. The intent of these guidelines was to help the Village create visually appealing and pedestrian friendly places while supporting economic activity along its commercial corridors. Several of the design guidelines for NYS Route 5 can be applied to the southern portion of this Study between Computer Drive and Wolf Road.

Relevant Recommendations:

- Provide pedestrian, bicycle, and vehicular links from the corridor to nearby neighborhoods, parks, schools, and other public destinations.
- Provide 5'-0" sidewalks along the full length of commercial properties with a 5'-0" landscaped buffer.

COMPREHENSIVE PLAN (*Town of Colonie, 2019*)

In 2019, the Town of Colonie updated their original 2005 Comprehensive Plan to include relevant recommendations and new goals to meet the changing needs of the residents and businesses. Several relevant plans and studies were referenced in the Comprehensive Plan.

PATHWAYS PLAN (2019)

During the public review portion of the 2005 Comprehensive Plan, pedestrian safety concerns initiated the creation of the Pathways Plan in 2008. The Pathways Plan was updated in 2019 with the goal of providing recommendations for pedestrian and bicyclist accommodations to encourage multi-modal travel within the Village. Sand Creek Road was designated as a CDTC Bike Pedestrian Priority Network.

Relevant Recommendations:

- Increase the connectivity between key destinations, such as safe routes to school, providing better access to trails, and working with State, County, and other partners to implement projects.

ALBANY SHAKER ROAD CORRIDOR STUDY (2018)

Completed in 2018, the Albany Shaker Road Corridor Study focused on the portion of Albany Shaker Road between Wolf Road and Everett Road. The objectives of the study were to enhance the character of the corridor, mitigate traffic concerns as well as addressing any safety and quality of life concerns for all modes and adjoining properties. Some recommendations from Albany Shaker Road study can be applied to the Sand Creek Road study due to the similar characteristics between the two corridors.

Relevant Recommendations:

- Reduce the speed limit along the corridor and introduce traffic calming measures on applicable side streets.
- Improve pedestrian safety through the addition of pedestrian crossings, sidewalks, and bicycle lanes.

CAPITAL DISTRICT TRAILS PLAN (*CDTC, 2019*)

This plan was developed to provide a safe space for walking and bicycling, protect the environment, improve quality of life, conserve energy, and promote tourism and economic development. The overall goal of the plan is to develop an updated vision for a seamless regional transportation network that connects cities, towns, and villages throughout the Capital District.

Relevant Recommendations:

- Identify the economic benefits of a local trail system and project how these benefits might affect the Capital District as part of an expanded network.
- Provide trail connections with areas of concentrated residential and business activity to help support commuting travel.

CAPITAL DISTRICT COMPLETE STREETS DESIGN GUIDE (*CDTC, 2022*)

The CDTC (known as the Capital District Transportation Committee) has developed a design guide for local governments in the Capital District area to aid in the incorporation of complete streets design elements on local roadways.

"Complete Streets are designed for all users, all modes of transportation, and all ability levels. They balance the needs of drivers, pedestrians, bicyclists, transit riders, emergency responders, and goods movement based on local context."

Relevant Recommendations:

- A well-lit multi-use path that accommodates bicyclists and pedestrians.
- Narrow travel lanes to help reduce travel speeds while maintaining vehicle capacity and providing space for shoulders or bicycle lanes.
- One-way turning lanes to provide definition and a pedestrian refuge with a curbed median.
- Paved shoulders to provide space for bicyclists outside of the motor vehicle lanes.
- A continuous sidewalk to provide a pedestrian facility at key locations along the corridor.

SAND CREEK ROAD PARK

A study was completed in 2021 by CHA Consulting to assess the potential development of a park on Town-owned land at 620 Sand Creek Road. The wooded, undeveloped site is approximately 127 acres, spanning from Vly Road to Sand Creek Road. The developed concept includes minor improvements to the existing trail system and a 24-space parking lot that can be accessed by Sand Creek Road, approximately 130 feet north of the intersection with Shaker Run.

CHAPTER 4: Public Outreach

Public involvement is critical for this study to understand the issues that the public faces within the Sand Creek Road corridor. The study included three (3) focus group sessions and one (1) public input session to provide members of the public, staff, stakeholders, and other agencies with opportunities to learn about and comment on the study. The final step in the public involvement process is a second public input session and final presentation to the Village Board and residents.

In addition to the focus group sessions and the public input sessions, information was shared, and comments were received via the study website: https://www.sandcreekroadcompletestreets.com/. The comments received via the website and during the focus group sessions and public meetings have been summarized and included in **Appendix F** of the study. These comments have all been considered in the development of the study and in many cases resulted in changes to the concept design.

Summary of Focus Group Session #1

The first focus group session took place on July 11, 2023. An open house was held at the Village Hall to provide the Sunset Boulevard Neighborhood Association with the opportunity to review the existing conditions and provide input on their concerns and the existing needs of the corridor as well as any ideas for improvements that should be considered as the study progresses. The open house was advertised via flyers that were handed out to the neighborhood.

Several residents stopped by to view the boards and leave feedback on what they would want to see improved along the study corridor. A summary of the session as well as the materials used are included in **Appendix F**.

Summary of Focus Group Session #2

The second focus group session took place on July 13, 2023. A presentation was made at the monthly Village Traffic Advisory Committee meeting with members of the Albany Bicycle Coalition in attendance. The presentation included an overview of the study, an explanation of complete streets, and a technical review of the existing conditions along the corridor.

Attendees had several opportunities to provide input, ask questions, and offer comments. This included an open forum question/comment session at the end of the presentation, as well as an open house-style period following the presentation. A summary of the session as well as the materials used are included in **Appendix F**.

Summary of Focus Group Session #3

The third focus group session took place on July 19, 2023. A hybrid presentation was made to local business stakeholders along and near the study corridor. The presentation included an overview of the

study, an explanation of complete streets, and a technical review of the existing conditions along the corridor.

At the end of the presentation, attendees had the opportunity to provide input, ask questions, and offer comments via an open forum question/comment session. A summary of the session as well as the materials used are included in **Appendix F**.

Summary of Public Input Session #1

The purpose of Public Input Session #1 was to inform the public about the corridor study and provide them with an understanding of existing conditions. It also provided the opportunity to obtain input from the public on their concerns and the existing needs of the corridor as well as any ideas for improvements that should be considered as the study progresses.

The session was held as an open house at the Village's Family Recreation Center on July 24, 2023. The meeting was attended by residents, stakeholders, and study advisory committee members. The meeting included a presentation that provided attendees with a brief introduction to the study and an overview of the existing conditions that were displayed via boards at the back of the room.

Attendees provided input, asked questions, and offered comments via an open forum question/comment session at the end of the presentation, as well as an open house-style period following the presentation. Attendees were also given survey cards and encouraged to review the material on the website and provide comments via the website.

A summary of the session as well as the materials used are included in **Appendix F**.

Summary of Public Input Session #2

Public Input Session #2 is scheduled for January 10, 2024. The event will be an Open House held at the Village Recreation Center.

Study Survey

A survey was available on the study's website from June 9, 2023, to August 16, 2023. The purpose of the survey was to identify needs and opportunities for the corridor, and to understand what walking, bicycling, transit, and vehicular improvements the community supports. The survey results are included in **Appendix F**.

CHAPTER 5: Alternatives Evaluation

Corridor Needs

Based on public feedback, input from the SAC, and previous studies conducted, transportation improvement alternative concepts were developed to address needs within the corridor and to enhance the character of the corridor. In many instances, the public concerns were related to safety and quality of life. The transportation improvement alternative concepts were developed considering the following needs and objectives, at a minimum:

- Vehicular speed reduction
- Improve deteriorating pedestrian facilities along the corridor
- Improve safety for pedestrians, bicyclists, and vehicular traffic, particularly at locations with elevated crash rates
- Provide pedestrian and bicycle accommodations, particularly the multi-use path, mid-block raised crosswalks and providing sidewalk connections
- Make connections to existing multi-modal infrastructure
- Implement access management strategies for the Hannaford and NYSDOT office parking lots near Wolf Road

Design Concept Alternatives

Intersection Improvements

As requested by the Village, the Hunting Road and Computer Drive South intersections with Sand Creek Road were investigated for intersection improvements. Improvements to this intersection are needed to increase the safety of turning vehicles onto and off of Hunting Road as well as the safety of pedestrians crossing Hunting Road.

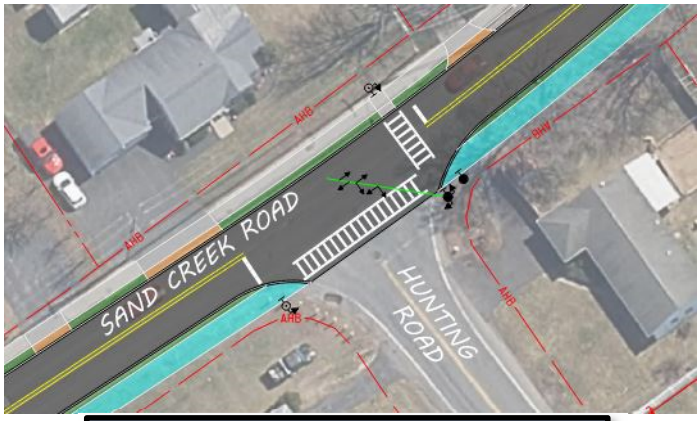
Sand Creek Road and Hunting Road

This intersection is currently a free-flowing intersection that is stop-controlled on the minor street. Three alternatives were identified for this intersection, which include an all-way stop-controlled intersection, a signalized intersection, and a single lane roundabout alternative.

An **all-way stop-controlled intersection** would include adding stop signs and stop bars along the Sand Creek Road northbound and southbound approaches, in addition to the existing stop sign and stop bar on Hunting Road.

A **traffic signal-controlled intersection** would include the installation of a new traffic signal and stop bars along the northbound and southbound approaches on Sand Creek Road.

The **roundabout alternative** would include a single lane roundabout with curbed medians at each approach. This alternative has been dismissed as it cannot be retrofitted within the intersection without impacting adjacent residences.



Hunting Road Traffic Signal Alternative

Future Traffic Analysis

To estimate the future traffic volumes, growth projection information was provided by the Transportation Council. An annual compound growth rate of 0.3% per year was applied to the 2023 Existing traffic volumes for the Future 2030, 2040 and 2050 traffic volume conditions. To assess the quality of traffic operations for the traffic signal intersection alternative, intersection capacity analyses were conducted with respect to Existing (2023), Future (2030), Future (2040) and Future (2050) traffic volume conditions.

At Sand Creek Road and Hunting Road, under future conditions, the lanes operate at LOS B or better for all approaches to the intersections for the AM and PM peak hours. The intersection capacity analysis results are summarized below in **Table 5.1 and Table 5.2**.

The Synchro output files are presented in **Appendix B**.

Table 5.1: Sand Creek and Hunting Road Future AM LOS Table (Delay in Seconds)

No.	Alternative	Approach	Movement	Existing Delays from Table 2.5	Existing (2023)	Future (2030)	Future (2040)	Future (2050)
1	Traffic Signal	Eastbound	Left / Right	B (13.5)	B (12.9)	B (12.9)	B (12.8)	B (13.0)
		Northbound	Left / Thru	A (8.3)	A (5.3)	A (5.4)	A (5.4)	A (5.4)
		Southbound	Thru / Right	A (0.0)	A (5.6)	A (5.7)	A (5.7)	A (5.7)
		Overall Intersection		**N/A**	**A (6.6)**	**A (6.6)**	**A (6.7)**	**A (6.7)**

Table 5.2: Sand Creek and Hunting Road Future PM LOS Table (Delay in Seconds)

No.	Alternative	Approach	Movement	Existing Delays from Table 2.5	Existing (2023)	Future (2030)	Future (2040)	Future (2050)
1	Traffic Signal	Eastbound	Left / Right	C (16.5)	B (16.0)	B (16.1)	B (16.4)	B (16.7)
		Northbound	Left / Thru	A (8.3)	A (6.3)	A (6.4)	A (6.6)	A (6.8)
		Southbound	Thru / Right	A (0.0)	A (4.5)	A (4.6)	A (4.5)	A (4.5)
		Overall Intersection		**N/A**	**A (6.8)**	**A (6.9)**	**A (7.0)**	**A (7.1)**

Overall, the AM and PM peak hour intersection delays would slightly improve on the eastbound and northbound intersection approaches. Delays on the southbound intersection approach would increase with the introduction of a traffic signal. It should be noted that, per **Table 2.4** in Chapter 2, the intersection LOS ranges for the letter designations differ between unsignalized and signalized intersections.

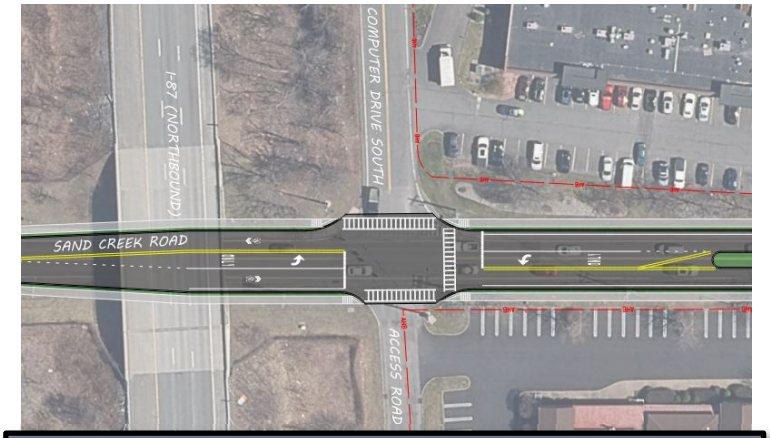
Table 5.3: Sand Creek Road and Hunting Road Intersection Comparison

	Benefits	Disadvantages
All Way Stop-Controlled	• Equal delay opportunity for all approaches • Least expensive alternative • Lower vehicular speeds entering intersection for improved pedestrian/bicyclists crossing safety	• Increased intersection delay / worsened LOS • Potential for increased rear-end crashes • Should not be used for traffic calming
Signalized	• Potential to reduce the number of right-angle crashes and potential crashes between vehicles and pedestrians/bicyclists • Lower vehicular speeds entering intersection for improved pedestrian/bicyclists crossing safety	• Increased intersection delay / worsened LOS • Potential for increased rear-end crashes • Unwarranted signals potentially cause diversion of traffic onto unsignalized residential side streets • Impacts to underground utilities
Roundabout	• Decreases overall intersection delay • Improved safety for pedestrians and vehicles	• Property acquisitions • Direct impacts to existing residential structures • Utility relocations • Most expensive alternative

Sand Creek Road and Computer Drive South

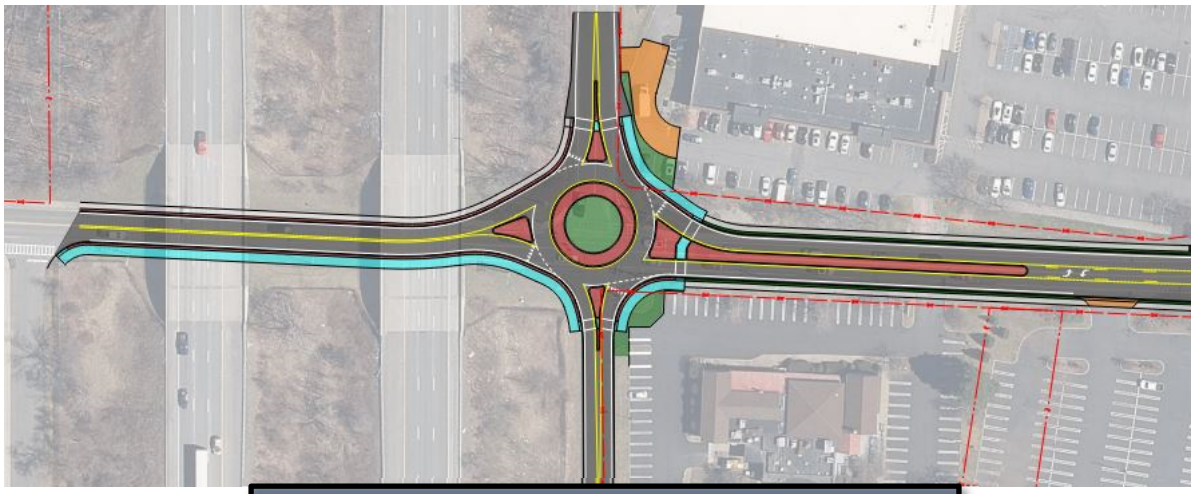
This intersection is currently a four-way signalized intersection that sees a high volume of vehicular and truck traffic entering Sand Creek Road from Wolf Road and adjacent commercial and office properties. Two alternatives were identified for this intersection, which include improvements to the existing signal and a signal lane roundabout.

Alternative A: Improvements to the existing traffic signal include adding left-turn lanes to the Sand Creek Road approaches.



Alternative A: Computer Drive South Signal Improvements

Alternative B: The roundabout alternative at Sand Creek Road and Computer Drive South would include a single lane roundabout with curbed medians at each approach.



Alternative B: Computer Drive South Roundabout

Future Traffic Analysis

To estimate the future traffic volumes, growth projection information was provided by the Transportation Council. An annual compound growth rate of 0.3% per year was applied to the 2023 Existing traffic volumes for the Future 2030, 2040 and 2050 traffic volume conditions. To assess the quality of traffic operations for the traffic signal improvements and roundabout intersection alternatives, intersection capacity analyses were conducted with respect to Existing (2023), Future (2030), Future (2040) and Future (2050) traffic volume conditions.

At Sand Creek Road and Computer Drive South, under future conditions, the lanes operate at LOS C or better for all approaches to the intersections for the AM and PM peak hours. It is noted that the effects of the recommended RRFB's along Sand Creek Road were not incorporated into the traffic model of the intersection. The intersection capacity analysis results are summarized below in **Table 5.4 and Table 5.5**.

The Synchro output files are presented in **Appendix B.**

Table 5.4: Sand Creek and Computer Drive Future AM LOS Table (Delay in Seconds)								
No.	**Alternative**	**Approach**	**Movement**	**Existing Delays from Table 2.5**	**Existing (2023)**	**Future (2030)**	**Future (2040)**	**Future (2050)**
1	Traffic Signal Improvements	Southbound	Left	A (6.0)	A (5.7)	A (5.7)	A (5.7)	A (5.8)
		Southbound	Thru / Right		A (7.3)	A (7.4)	A (7.5)	A (7.6)
		Eastbound	Left / Thru / Right	B (16.1)	C (20.5)	C (20.5)	C (20.5)	C (20.6)
		Northbound	Left	A (4.8)	A (7.2)	A (7.2)	A (7.2)	A (7.3)
		Northbound	Thru / Right		A (8.6)	A (8.7)	A (8.7)	A (8.8)
		Westbound	Left / Thru / Right	B (16.8)	C (21.5)	C (21.5)	C (21.6)	C (21.6)
		Overall Intersection		**A (6.5)**	**A (8.7)**	**A (8.7)**	**A (8.8)**	**A (8.9)**
2	Roundabout	Southbound	Left / Thru / Right	A (6.0)	A (6.7)	A (6.8)	A (6.9)	A (7.1)
		Eastbound	Left / Thru / Right	B (16.1)	A (4.6)	A (4.7)	A (4.7)	A (4.8)
		Northbound	Left / Thru / Right	A (4.8)	A (5.1)	A (5.1)	A (5.2)	A (5.3)
		Westbound	Left / Thru / Right	B (16.8)	A (4.1)	A (4.1)	A (4.2)	A (4.2)
		Overall Intersection		**A (6.5)**	**A (5.9)**	**A (6.0)**	**A (6.2)**	**A (6.3)**

Overall, the AM peak hour intersection delays would either remain relatively the same or increase for all of the intersection approaches with the introduction of the traffic signal improvements alternative. For the roundabout alternative, the southbound and northbound approach delays would increase, and the eastbound and westbound approach delays would decrease.

Table 5.5: Sand Creek and Computer Drive Future PM LOS Table (Delay in Seconds)								
No.	**Alternative**	**Approach**	**Movement**	**Existing Delays from Table 2.5**	**Existing (2023)**	**Future (2030)**	**Future (2040)**	**Future (2050)**
1	Traffic Signal Improvements	Southbound	Left	C (21.2)	A (8.9)	A (9.2)	A (9.8)	B (10.4)
		Southbound	Thru / Right		A (6.9)	A (7.2)	A (7.7)	A (8.2)
		Eastbound	Left / Thru / Right	B (19.7)	C (21.8)	C (21.8)	C (21.8)	C (21.8)
		Northbound	Left	A (6.2)	A (0.0) *	A (0.0) *	A (0.0) *	A (0.0) *
		Northbound	Thru / Right		B (13.4)	B (13.9)	B (14.7)	B (15.7)
		Westbound	Left / Thru / Right	C (22.8)	C (25.2)	C (25.2)	C (25.3)	C (25.3)
		Overall Intersection		**B (16.0)**	**B (12.3)**	**B (12.6)**	**B (13.1)**	**B (13.7)**
2	Roundabout	Southbound	Left / Thru / Right	C (21.2)	B (12.2)	B (12.6)	B (13.4)	B (14.3)
		Eastbound	Left / Thru / Right	B (19.7)	A (9.0)	A (9.2)	A (9.7)	B (10.1)
		Northbound	Left / Thru / Right	A (6.2)	B (11.0)	B (11.4)	B (12.1)	B (12.8)
		Westbound	Left / Thru / Right	C (22.8)	A (9.7)	A (10.0)	B (10.5)	B (11.0)
		Overall Intersection		**B (16.0)**	**B (11.3)**	**B (11.7)**	**B (12.4)**	**B (13.2)**

Notes: (*) – LOS is 0.0 seconds for the westbound left movement Sand Creek Road due to the PM volumes having no left-turns onto the access road.

Overall, the PM peak hour intersection delays would greatly improve for the southbound intersection approach and then increase for the northbound, eastbound, and westbound approaches for the traffic signal improvements alternative. For the roundabout alternative, the intersection delays would greatly improve for the southbound, eastbound, and westbound intersection approaches. However, the northbound intersection approach delays would increase.

The traffic analysis for Alternate A does not account for signal timing coordination the signal at the Sand Creek Road / Wolf Road intersection. The signal at Wolf Road favors the heavy north/south movements, and signal coordination with the potential to introduce additional delay to NB/SB Wolf Road movement to accommodate vehicles along Sand Creek Road is not likely warranted. During the preliminary design of intersection improvements, the traffic models should include both the Computer Drive South and Wolf Road intersections to determine whether additional signal coordination is warranted and would provide a benefit to the LOS for both intersections.

Table 5.6: Sand Creek Road and Computer Drive South Intersection Comparison

	Benefits	Disadvantages
Alternative A: Signal Improvements	• Decreases overall PM intersection delay • Least expensive alternative • Coordinated signals will reduce number of stops and allow for continuous traffic flow • Improves safety for vehicles by reducing the number of rear-end crashes on Sand Creek Road	• Utility impacts • Adjusting embankment stone under I-87 bridge • Increases overall AM intersection delay
Alternative B: Roundabout	• Decreases overall AM and PM intersection delay • Improved safety for pedestrians • Improves safety for vehicles by reducing the number of rear-end crashes on Sand Creek Road	• Improvement with the largest footprint • Adjusting embankment stone under I-87 bridge • Property acquisitions • Relocation of commercial driveways • Aerial utility relocations • Most expensive alternative

Pedestrian Signals

Upgrading the existing pedestrian signals and ensuring that all signalized crossings are ADA compliant will create a safer environment for pedestrians to travel the corridor.

As discussed in Chapter 2, many of the intersection crossings within the study area require pedestrian signal upgrades to conform with current design standards. Based on a visual inspection of the corridor and the above-mentioned concepts, the following intersections would require pedestrian signal upgrades: Sand Creek Road / Shaker Run, Sand Creek Road / Sunset Boulevard and Sand Creek Road /

Computer Drive South. Should a traffic signal be installed at the Sand Creek Road / Hunting Road intersection, pedestrian signals would be required at that intersection as well.

The remaining intersections do not require pedestrian signal improvements. The intersection of Watervliet Shaker Road and Sand Creek Road is a part of an Albany County-led project that is currently under construction. Pedestrian signal upgrades are expected to be completed at this intersection by the fall of 2024. The intersection of Wolf Road and Sand Creek Road currently has pedestrian signals with push buttons attached to the same pedestrian signal pole for crossing both Sand Creek Road and Wolf Road at all corners of the intersection.

Reconstruction of Sidewalks, Curbs and Curb Ramps

In general, concrete sidewalks are currently located on the eastern side of Sand Creek Road throughout most of the study area. The existing sidewalks are in disrepair in several locations along the corridor. There are no sidewalks on the western side of Sand Creek Road. Curb ramps are present at each intersection pedestrian crossing location; however, most do not meet ADA standards due to concrete deterioration, steep slopes, and insufficient turning spaces.

Benefits of new sidewalks and curb ramps include improved pedestrian connectivity between pedestrian origins and destinations along the corridor, particularly access to Watervliet Shaker Road, retail destinations on Wolf Road, Bauer Park, and Forest Park Elementary School. A grass buffer should be considered between the road and the sidewalks to provide room for snow storage as well as providing pedestrians with a buffer from roadway vehicles.

Sidewalks are needed along the east side of Sand Creek Road to bridge the existing gaps between Watervliet Shaker Road and Shaker Run. Feedback from the public input sessions showed that residents would like to see a sidewalk connection along Mordella Road from Sand Creek Road to Forest Park Elementary and along the west side of Sand Creek Road from Jodiro Lane to Wolf Road.

Bicycle Accommodations

Shared Use Lanes

To provide accommodations for bicycle traffic in areas where available right-of-way is limited, shared-use lanes could be introduced. Shared-use lanes require a minimum of 13’-0” to allow for adequate and comfortable clearance for motorists to pass bicyclists.

https://fabb-bikes.blogspot.com/2012_05_01_archive.html

Bicycles Lanes

https://nacto.org/publication/urban-bikeway-design-guide/bike-lanes/buffered-bike-lanes/

In areas where space is not as limited, bicycle lanes can be implemented alongside vehicular travel lanes. Bicycle lanes require a minimum width of 5’-0”. However, under specific situations such as narrow parking lanes and areas with high bicycle use, widths between 6’-0” to 8’-0” are recommended. Since Sand Creek Road does not have on-street parking and the current bicycle usage is low, a 5’-0” bicycle lane would be sufficient.

Multi-Use Path

Multi-use paths provide a shared space for all non-motorized users, separated from vehicular traffic. Multi-use paths should be a minimum of 10’-0” wide, but in certain situations, such as limited right-of-way, existing utilities, or environmentally sensitive features, widths can be reduced to 8’-0”. For the Sand Creek Road corridor, a multi-use path width will vary to accommodate the existing right-of-way and major utility features.

https://cbbel.com/wpcontent/uploads/2017/07/IMG_4209_post.jpg

Alternative A: This alternative includes a multi-use path that begins at Watervliet Shaker Road and terminates at Mordella Road.

Alternative B: This alternative includes a multi-use path that begins **at** Watervliet Shaker Road and terminates at Computer Drive South.

Table 5.7: Bicycle Accommodation Comparison		
	Benefits	**Disadvantages**
Shared-Use Lanes	• Minimal amount of work required to implement • Provides bicyclists with connections to jobs, schools, retail stores and other bicyclist generators • Allows cyclists to follow a more natural flow of traffic, bringing motorist attention to bicycles • Decreased bicycle-vehicle crashes	• Slower bikes interrupt traffic flow • Driver confusion • Vehicles potentially make unsafe passes on bicycles • Uncomfortable for inexperienced cyclists
Bicycle Lanes	• Bicycle awareness increases overall cyclist safety • Provides bicyclists with connections to jobs, schools, retail stores and other bicyclist generators • Dedicated bike lanes encourages cycling on the roadway • Takes bicycles off sidewalks improving pedestrian safety	• Cyclists have a false sense of security • Debris, gravel, and trash build up on the side of the road creates hazards for bike lane users • Potential for costly right-of-way acquisitions
Multi-Use Path	• Creates a safe space for physical activity for all non-motorized users • Provides bicyclists and pedestrians with connections to jobs, schools, retail stores and other generators • Safe barrier between vehicle traffic, bicyclists, and pedestrians	• Potential for costly right-of-way acquisitions • Utility pole relocations

Two options were evaluated as part of Alternative B to provide bicycle access along the southern portion of Sand Creek Road:

- The first option investigated ending the recommended bicycle facility at the Computer Drive South intersection. From there, bicyclists could choose to either travel south to access businesses along the southwest part of Wolf Road or travel north along Computer Drive South and cross Wolf Road at the Computer Drive West intersection. The intersection of Wolf Road with Computer Drive west exhibits lower traffic volumes and Computer Drive East has wider shoulders than Sand Creek Road that can more safely accommodate bicyclists.
- The second option would be to maintain bicycle traffic to the Wolf Road intersection, with a delineated bicycle lane on the north approach. Due to the higher traffic volumes and minimum available shoulder of Sand Creek Road south of Wolf Road, this option is not recommended.

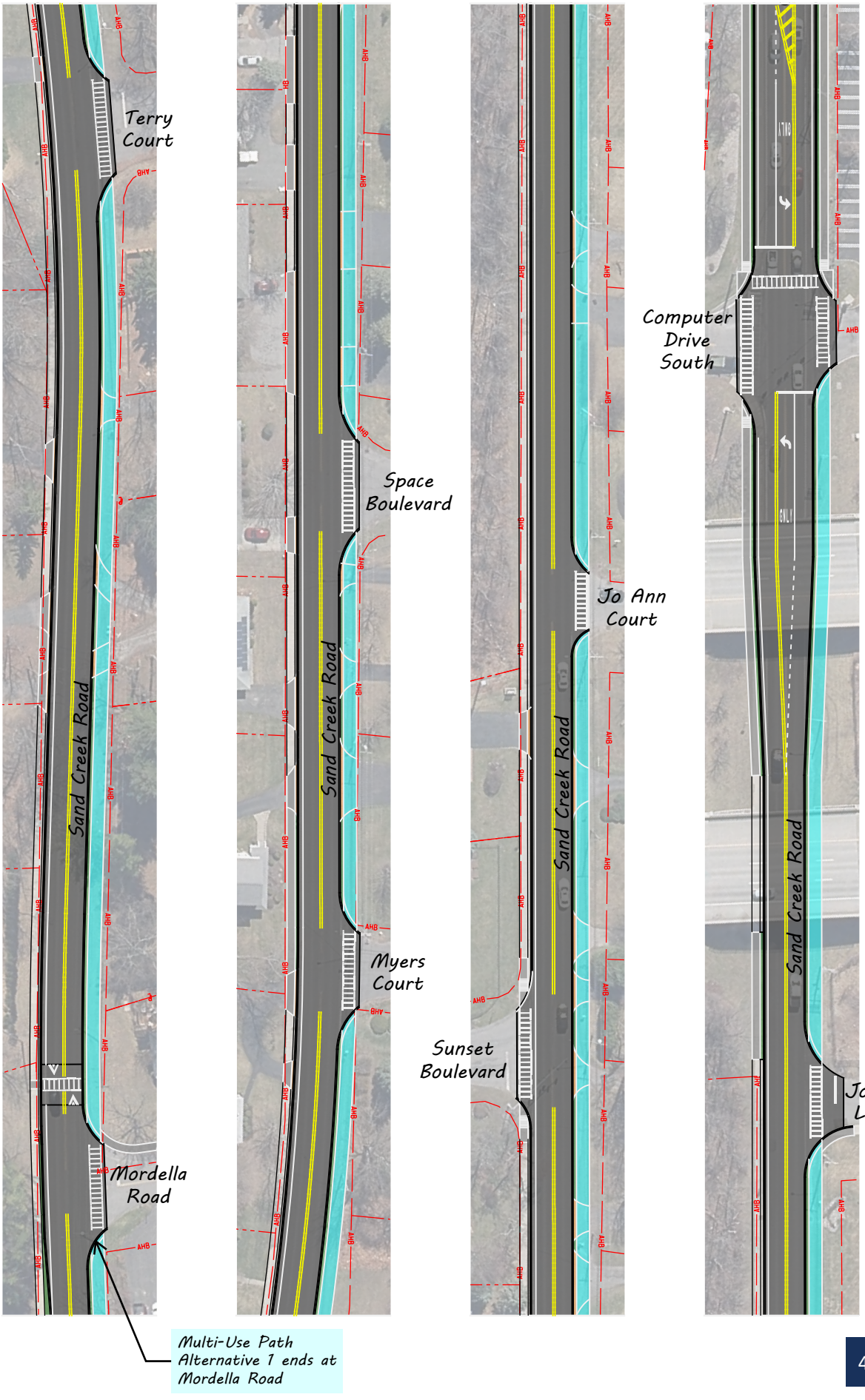
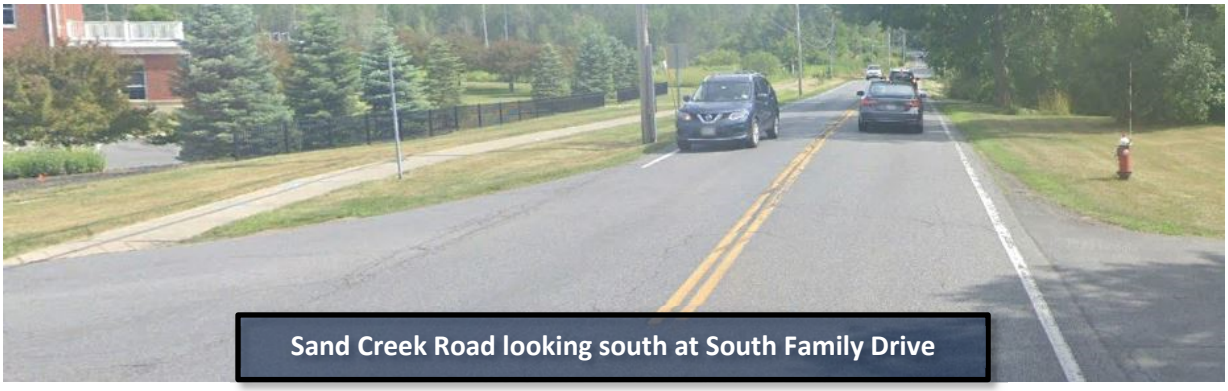


Figure 5.1: Multi-Use Path Alternative B

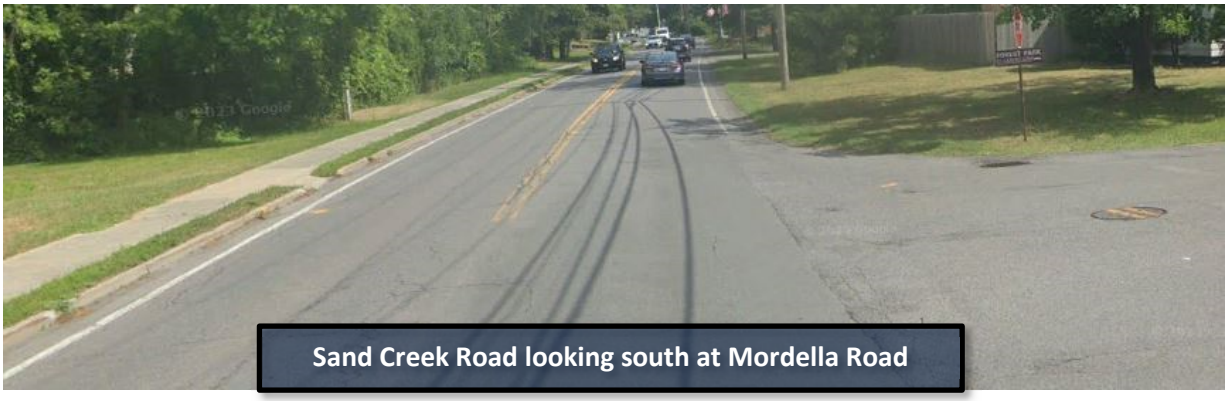
Midblock Crossings

With the potential addition of sidewalks or multi-use paths along the west side of Sand Creek Road, the need for pedestrian crossings at existing and new locations would increase. The locations for pedestrian crossings were evaluated based on public feedback. The following locations have been identified as potential concept midblock crossings:

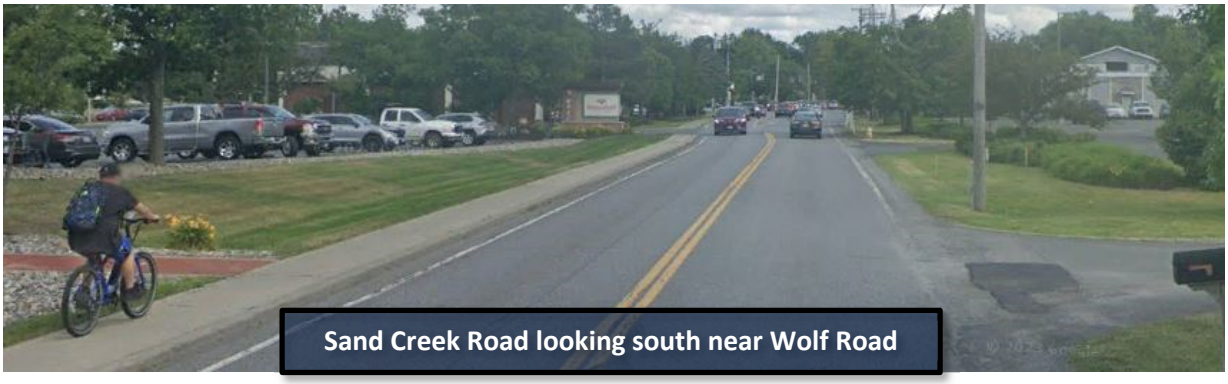
- South Family Drive Crossing
- Mordella Road Crossing
- Crossing between Computer Drive South and Wolf Road



Sand Creek Road looking south at South Family Drive



Sand Creek Road looking south at Mordella Road



Sand Creek Road looking south near Wolf Road

These mid-block crossing locations were specifically chosen based on the need to provide safe pedestrian crossings to pedestrian generators as well as frequently observed crossings along Sand Creek Road. The mid-block crossings will provide access to generators such as Forest Park Elementary School,

Bauer Park, commercial businesses at the southern end of Sand Creek Road and access to South Family Drive for pedestrians and bicyclists to have access to the multi-use path on Watervliet Shaker Road.

Pedestrian Crossings: Spacing Guidance

Based on the NYS Vehicle and Traffic Law, pedestrian crossing demand should be assumed at all intersecting public streets. Pedestrian crossings during busy times can be a challenge at unmarked locations and walking distances to the nearest protected pedestrian crossing can be long.

"*Based on FHWA research and AASHTO guidance, 1 mile is recognized as the maximum walking distance that most healthy/able-bodied people would be willing to undertake. However, the research also states that the majority of pedestrian trips are 0.25 miles in length. Subject to good engineering judgment, 0.25 miles is an appropriate average distance for accommodating "most" pedestrians of all abilities, outside of high-pedestrian traffic zones. In high-pedestrian traffic zones, or central business/walking districts, pedestrian crossings spaced between 330 feet and 500 feet apart would be reasonable and may correspond with the typical block lengths in high-pedestrian traffic zones. Suggested spacing of crossings are as follows:*

- *Central business/walking districts – from 330 feet to 500 feet apart*
- *Urban or suburban residential/retail areas – not to exceed 0.25 miles.*
- *The maximum distance that people with disabilities should reasonably be expected to divert from their intended path would be between 165 feet and 250 feet."*

- New York State Highway Design Manual Section 18.7.1 Pedestrian Street Crossing Dynamics

Pedestrian / Bicyclist Amenities

The installation of amenities such as bicycle racks and benches would make traveling the corridor more desirable to pedestrians and bicyclists. Making the corridor more appealing to pedestrians and bicyclists has the potential to decrease dependency on vehicular travel, reducing congestion at peak hours. A few locations were identified for such amenities including Bauer Park and the mid-block crossing between the Computer Drive South and Wolf Road intersections.

Access Management

Driveways

Currently, there are two driveways between Computer Drive South and Wolf Road that provide access to the parking lot on the west side of Sand Creek Road, in addition to the access road from the Computer Drive South intersection. By providing another connection inside the parking lot and removing one of the driveways, pedestrian conflicts with turning vehicles and rear-end crashes would be reduced.

Additional access management practices should be considered along the corridor, specifically in the area of the Smile Zone and Tiny Town driveway entrances. Currently, the existing layout of the Smile Zone driveway forces vehicles to utilize a private driveway to exit the parking lot. This area would benefit from clear, delineated driveways for all three properties.

Medians

A common concern along the corridor was the delays and safety issues caused by vehicles attempting to make left turns onto and off Sand Creek Road between Computer Drive South and Wolf Road. A center-left turn lane between these two intersections would provide a space for left-turning vehicles to mitigate delays and backups to either traffic signal. This median could either be curbed or striped.

Lighting

Street lighting is lacking along Sand Creek Road between Watervliet Shaker Road and the residential homes after Shaker Run. Streetlights would provide pedestrians and bicyclists with a safer environment to travel in at night and would help motorists identify roadway obstructions such as pedestrians, bicyclists, and wildlife.

Vehicle Weight Limit and Speed Enforcement

Multiple tactics were investigated in order to enforce the speed and vehicle weight limits along Sand Creek Road as this was a common concern among Village residents:

- Increased police presence along the corridor to bring attention to and enforce the limits
- Speed enforcement cameras strategically placed along the corridor
- Visually narrowing the corridor to deter speeding
- Submit requests directly to the makers of GPS devices / applications and online maps to clearly label the restricted route
- Radar feedback speed signs along the corridor to deter speeding

The legality of implementing cameras to issue tickets to speeding motorists must be investigated. The NYS Vehicle and Traffic Law currently only allows speed enforcement cameras in School Zones.

Corridor Enhancements

Several locations along the Sand Creek Road corridor were investigated for enhancements such as landscaping, gateway improvements, and signage. Potential landscaping enhancements include street trees and shrubbery, mulched areas, and wildflowers. Should a multi-use path be implemented along Sand Creek Road, the existing Village of Colonie sign will need to be relocated, creating an opportunity for gateway improvements. Additionally, wayfinding signage would inform pedestrians and bicyclists about the nearby trails and other pedestrian generators close to the corridor.

CHAPTER 6: Recommended Improvements

The design alternatives discussed in Chapter 5 were presented to the Village of Colonie, Transportation Council, the SAC, and NYSDOT. Each entity was given the opportunity to review the concepts and provide feedback.

Recommended improvements have been identified for the Sand Creek Road corridor, as well as specific intersections throughout the corridor. The recommended improvements satisfy the study objectives and have been developed utilizing feedback from the involved municipal agencies and the public. Images of the concept-level improvements are provided within the subsections of this Chapter; however, full concept plans are available in **Appendix G**.

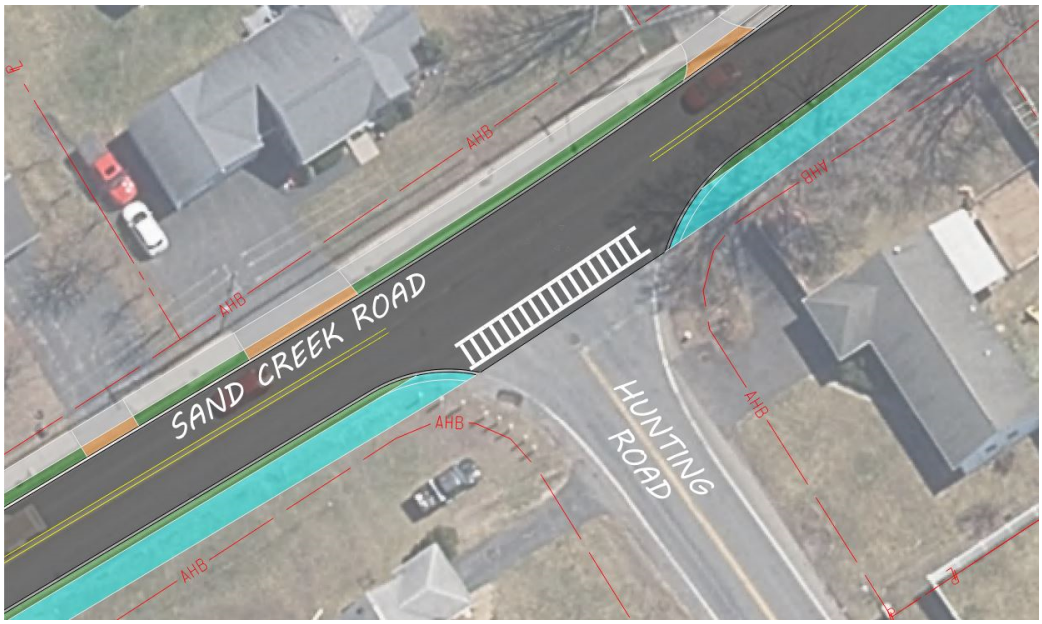
The following recommendations are conceptual in nature and do not commit the Village of Colonie (or other entities) to the proposed project(s). Concepts presented in this report may need to be investigated in more detail before any commitment for funding is made. Additional engineering or follow-up work will be based upon funding availability.

Intersection Improvements

Sand Creek Road and Hunting Road

The intersection with Hunting Road was evaluated for several intersection improvement alternatives including an all-way stop-controlled intersection, a signalized intersection, and a roundabout. Based on the feedback from the Village, Transportation Council, SAC, and the public, a signalized intersection is desired at this intersection. However, a signal warrant analysis was completed for this intersection, and it was determined that a signal is not warranted at this time. It is recommended that the intersection control remain as is, and a high visibility crosswalk be installed at the Hunting Road crossing.

While not warranted, the Village may still elect to install the traffic signal with their own funds. The signalized intersection is preferred to the roundabout due to the overall construction cost and impacts to private property required to retrofit the roundabout. The signal concept proposes the existing intersection geometry to remain, adding stop bars on all approaches and high visibility crosswalks with pedestrian signals for the Hunting Road crossing and Sand Creek Road crossing. The use of a span wire or mast arm signal would need to be evaluated during design. A traffic signal will provide traffic on Hunting Road with a separate phase to make turns onto Sand Creek Road and allow for safe pedestrian crossing with installation of integrated pedestrian signals.



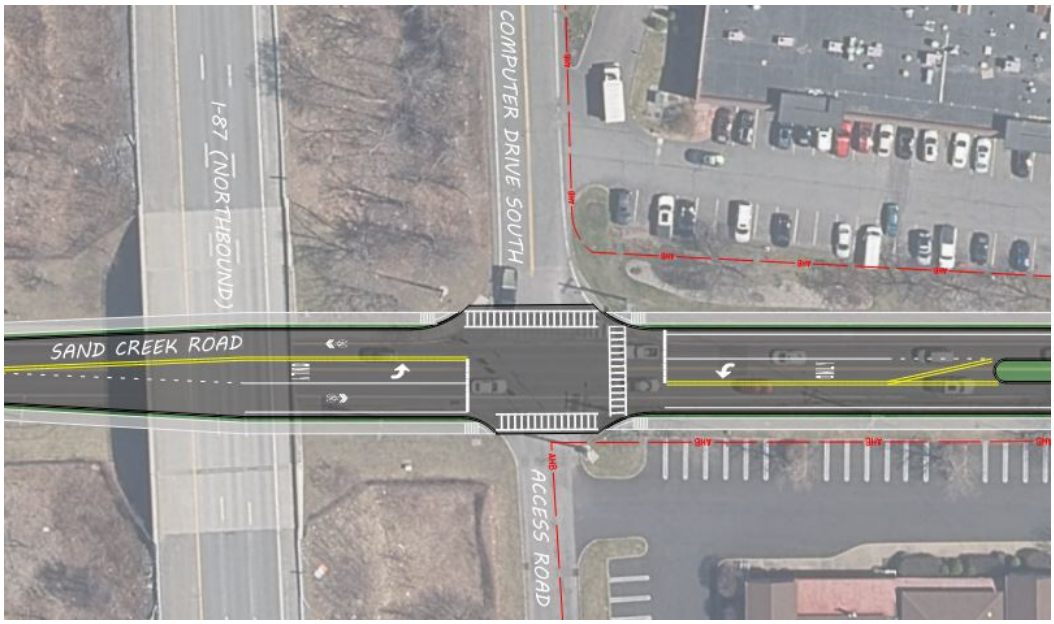
This graphic is conceptual in nature and does not commit the Village of Colonie (or other entities) to the proposed project(s).

Hunting Road Intersection Alternative

Sand Creek Road and Computer Drive South

The intersection with Computer Drive South was evaluated for two intersection improvement alternatives; a single lane roundabout and existing traffic signal improvements. Based on feedback from the Village and the Transportation Council, traffic signal improvements are recommended for this intersection.

The traffic signal improvements alternative is preferred to the roundabout due to the overall construction cost and property acquisitions required to retrofit the roundabout. The recommended concept for the intersection consists of two 11'-0" left-turn lanes on the Sand Creek Road approaches. Shoulder widening would be required for the two added turn lanes and the stone embankments under the I-87 northbound bridge would need to be modified to allow for sidewalks along both sides of the road. The stone embankment slopes can be modified to a maximum of 1V:2H. A minimum of 14'-0" vertical clearance must be maintained under the bridges over Sand Creek Road as well as the adjacent sidewalks. If during design it is determined that this is not feasible, further coordination with the NYSDOT structures group will be required. Overall, the improvements to the intersection would reduce the delay for vehicles turning left off Sand Creek Road, allowing for a smoother transition through this heavily traveled corridor and improve bicycle and pedestrian connectivity. Utility relocations would be required for this concept; however, the impacts are considerably less than those required with the roundabout concept.



This recommendation is conceptual in nature and does not commit the Village of Colonie (or other entities) to the proposed project(s).

Computer Drive South Intersection Improvements

Sand Creek Road Corridor Improvements

Sand Creek Road is a unique thoroughfare due to the changes in land use and the need to prioritize several modes of transportation including vehicles, pedestrians, and bicyclists. In many segments, the existing corridor lacks pedestrian and bicycle connectivity and is confined by residential homes, utility poles and narrow right-of way. The following corridor improvements have been identified with these constraints in mind.

Pedestrian Signals

There are many intersections throughout the corridor that need pedestrian signal upgrades. Those intersections and recommended improvements are listed below.

Sand Creek Road and Shaker Run: Install accessible pedestrian signals (APS) with push buttons and signs for the Shaker Run crossing as well as the Sand Creek Road crossing from the multi-use path to the sidewalks on the east side of the road.

Sand Creek Road and Hunting Road: With the installation of a traffic signal at this intersection, APS with push buttons and signs would be required for the Hunting Road crossing as well as the Sand Creek Road crossing.

Sand Creek Road and Sunset Boulevard: Install APS with push buttons and signs for the Sunset Boulevard crossing.

Sand Creek Road and Computer Drive South: Install APS with push buttons and signs for the southwest and southeast quadrant of the intersection crossing the access road and Sand Creek Road. The existing

pedestrian signal crossing Computer Drive South was identified to not be in working order and would need to be updated to be operational.

Reconstruction of Sidewalks, Curbs and Curb Ramps

Limited reconstruction of sidewalks and curb ramps is recommended throughout the corridor based on the current condition of sidewalks, ADA compliance and to close the gaps in the existing network. The recommended sidewalk layout must provide a 5'-0" clear pedestrian path free of appurtenances. 4'-0" sidewalk width is allowed in areas where the 5'-0" width cannot be met as long as a 5'-0" x 5'-0" passing space is provided at least every 200'-0". A grass buffer area between the sidewalk and the road would provide space for lighting, street trees and snow storage outside of the pedestrian access way with varying widths of 2'-0" to 12'-0" depending on the available right-of-way. Sidewalks are being recommended along the east side of Sand Creek Road to close the gaps between Watervliet Shaker Road and Shaker Run, through driveways where there is currently not sidewalk, along Mordella Road to provide a connection from Sand Creek Road to Forest Park Elementary School, and along the west side of Sand Creek Road from Jodiro Lane to Wolf Road. For more details on recommended sidewalk locations see **Appendix G** for the concept plans.

Bicycle Accommodations

Where there appears to be sufficient right-of-way between Watervliet Shaker Road and Mordella Road, it is recommended that a multi-use path be installed along the west side of Sand Creek Road. Where the multi-use path terminates at Mordella Road, Sand Creek Road should be signed and marked as shared-use for bicyclists and motorists in the northbound and southbound directions. It is recommended that the multi-use path be 10'-0" from Watervliet Shaker Road to approximately 200'-0" south of the Shaker Run intersection where it would reduce to 8'-0". The reduction in width is due to the right-of-way constraints through the area. Where the multi-use path terminates, Sand Creek Road would be signed and marked to accommodate 13'-0" wide shared-use travel lanes where bicyclists will be able to travel with vehicular traffic from Mordella Road to Computer Drive South. From the Computer Drive South intersection, bicyclists may then choose to travel south to access businesses along the southwest portion of Wolf Road or travel north along Computer Drive South to cross Wolf Road at the Computer Drive West intersection. Additionally, a second multi-use path alternative was investigated for this study. This alternative would consist of continuing the multi-use path past Mordella Road and terminating the path at the Computer Drive South intersection. This alternative was less desirable due to right-of-way constraints and utility pole relocations that would be required to construct the multi-use-path.

Midblock Crossings

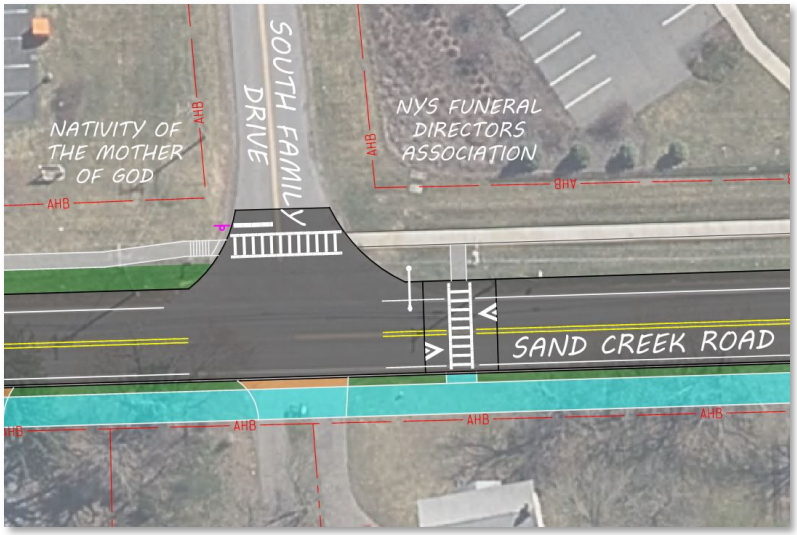
Three (3) mid-block crossings are recommended to improve pedestrian safety when crossing Sand Creek Road. Mid-block crossings are recommended on Sand Creek Road at the South Family Drive intersection, Delafield Drive intersection and between the Wolf Road and Computer Drive South intersections. All mid-block crossings shall be raised crosswalks with high visibility epoxy paint striping and RRFB's. Per the NYSDOT Standard Details, raised crosswalks are acceptable on roads with less than or equal to 20,000 vehicles per day, less than or equal to 5% truck traffic, and a pavement surface score of 7 or greater. Sand Creek Road meets each of these requirements. Refer to Dwg. Nos. 1, 3 and 4 in **Appendix G** for additional details.

Prior to final design and construction of raised crosswalks, it is recommended that the Village set up a demonstration to determine if the feature will negatively affect vehicular turning movements. The demonstration would involve installation of a temporary, rubberized speed table to mimic a raised crosswalk in order to visually evaluate whether travel patterns are negatively affected.

"AASHTO Guide for Planning, Design, and Operation of Pedestrian Facilities, Figure 3-48"

South Family Drive Crossing

Bicyclists regularly utilize South Family Drive to access the existing multi-use path along Watervliet Shaker Road from the neighborhoods along Sand Creek Road. This location would provide a safe crossing for pedestrians as well as bicyclists to continue the connectivity between the neighborhoods and the multi-use path along Watervliet Shaker Road. The crossing would be located at the Sand Creek Road and South Family Drive intersection and would consist of a raised high visibility crosswalk with Rectangular Rapid Flashing Beacons (RRFB) to bring vehicular attention to the crossing.

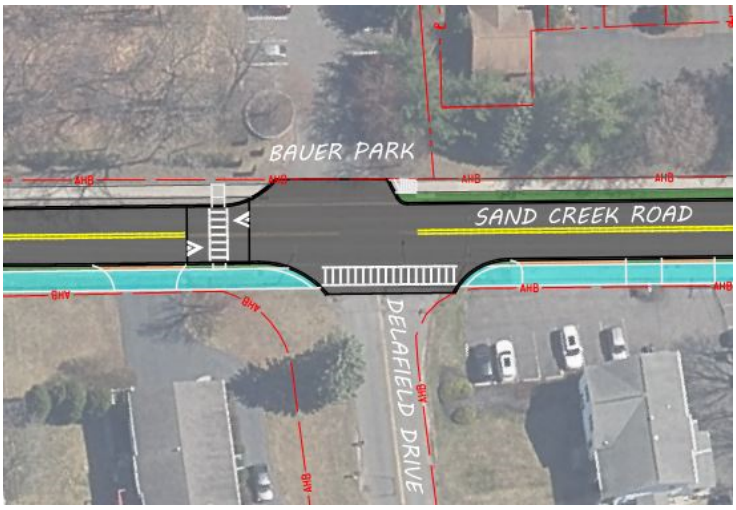


This recommendation is conceptual in nature and does not commit the Village of Colonie (or other entities) to the proposed project(s).

South Family Drive and Sand Creek Road Mid-Block Crossing

Delafield Drive / Sand Creek Road Crossing

The mid-block crossing at the Delafield Drive intersection would be located along the northern approach to the intersection. This location would provide a marked crossing for pedestrian and bicycle traffic between Bauer Park, the existing sidewalks, Forest Park Elementary School, and the multi-use path. The crossing would consist of a raised high visibility crosswalk with Rectangular Rapid Flashing Beacons (RRFB) to bring vehicular attention to the pedestrian crossing.



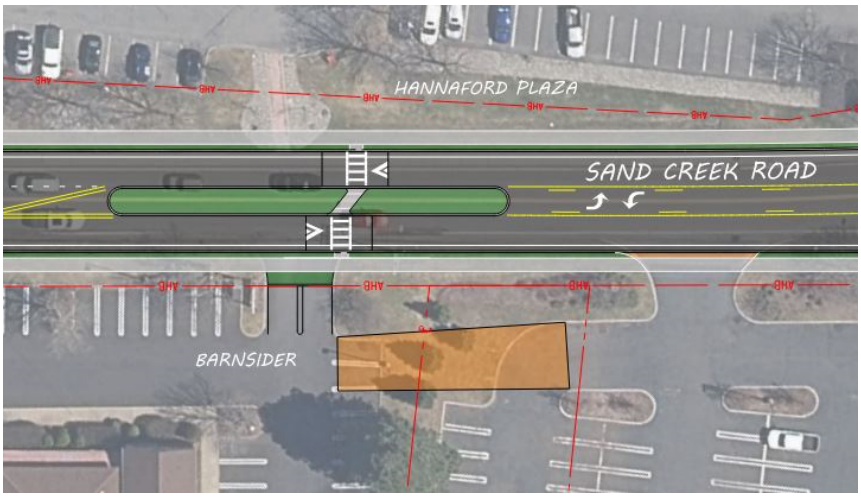
This recommendation is conceptual in nature and does not commit the Village of Colonie (or other entities) to the proposed project(s).

Delafield Drive and Sand Creek Road Mid-Block Crossing

The public expressed interest in another mid-block crossing at Mordella Road. A detailed pedestrian count and destination study should be completed during design to determine if one crossing at Delafield Drive is sufficient, or if a second crossing location should be added at Mordella Road.

Crossing between Computer Drive South and Wolf Road

The mid-block crossing along Sand Creek Road would be located approximately 300’ south of the Computer Drive South and Sand Creek Road intersection. This location would provide a safe crossing between the office buildings on the west side of Sand Creek Road and retail businesses on the east side. The crossing would consist of a raised high visibility crosswalk with Rectangular Rapid Flashing Beacons (RRFB) to bring vehicular attention to the pedestrian crossing, as well as a curbed median island to allow for pedestrian refuge while crossing.



This recommendation is conceptual in nature and does not commit the Village of Colonie (or other entities) to the proposed project(s).

Sand Creek Road Mid-Block Crossing near Wolf Road

An engineering study is recommended for these crossings to determine where a rectangular rapid flashing beacon is warranted in accordance with the NYS Pedestrian Safety Action Plan (PSAP).

Pedestrian / Bicyclist Amenities

It is anticipated that pedestrian and bicycle traffic within and surrounding the Village would increase given the implementation of the recommendations discussed within. To provide a more enjoyable experience for bicycle and pedestrian user groups, the installation of bicycle and pedestrian-related amenities, such as bicycle racks and benches, is recommended along the corridor near pedestrian generators such as retail destinations on Wolf Road, Bauer Park, and Forest Park Elementary School.

Access Management

Driveways

Access management is recommended in several locations along the corridor. In order to separate traffic between the Smile Zone and Tiny Town, it is recommended that the southern-most Smile Zone driveway be relocated to exit directly onto Sand Creek Road, instead of the private driveway. A grass buffer strip should be considered between the private driveway and the Tiny Town driveway to show a clear delineation between the two.

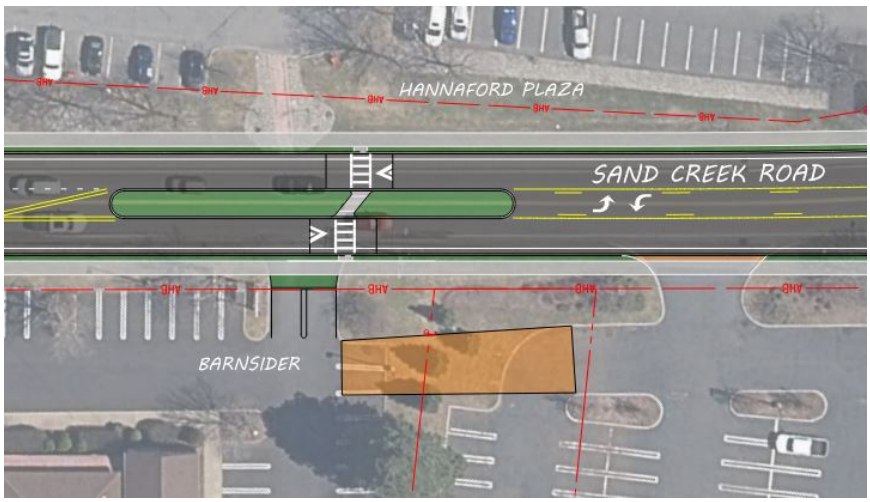
This recommendation is conceptual in nature and does not commit the Village of Colonie (or other entities) to the proposed project(s).

Smile Zone / Tiny Town Driveways

It is recommended that the Barnsider Driveway on Sand Creek Road be removed, and an additional connection point be provided within the parking lot to reduce the number of access points between Computer Drive South and Wolf Road. Since both of these improvements encroach onto private property, additional approvals or agreements may be required from the property owners. Refer to the Medians section in this Chapter for a graphic of the recommendation.

Medians

Installation of a curbed, landscaped median is recommended between Computer Drive South and Wolf Road. The curbed median would provide a refuge for pedestrians, separate from vehicular traffic, who are utilizing the mid-block crossings previously mentioned. A center left-turn lane to allow left turning vehicles access to the parking lots on either side of Sand Creek Road is also recommended. Coordination with emergency services is required to evaluate whether the median will negatively affect their routing. Refer to Dwg. No. 4 in **Appendix G** for additional details.



This recommendation is conceptual in nature and does not commit the Village of Colonie (or other entities) to the proposed project(s).

Curbed median on Sand Creek Road, between Computer Drive South and Wolf Road

Lighting

Street lighting is lacking along Sand Creek Road between Watervliet Shaker Road and the residential homes after Shaker Run. It is recommended to install LED street lighting on the east side of Sand Creek Road from Watervliet Shaker Road to approximately 200' south of the Shaker Run intersection. Streetlights would provide pedestrians and bicyclists with a safer environment to travel in at night and would help motorists identify roadway obstructions such as pedestrians, bicyclists, and wildlife. The Village and Town of Colonie should consider upgrading all existing lighting infrastructure along Sand Creek Road to LED luminaires.

Vehicle Weight Limit and Speed Enforcement

The enforcement of weight and speed is a concern for the Village and residents along the corridor. Multiple speed and weight enforcement tactics were investigated for Sand Creek Road.

Radar speed feedback signage is recommended within the corridor to deter speeding. The Village prefers the use of radar signs that do not display driver speed. The data collected from these radar signs can also be used to target when and where increased enforcement is needed. Increased police presence is also recommended along Sand Creek Road. The increased presence of police and speed signs will increase motorist awareness that their speed is being monitored and should drive at the posted speed limit along the road. Feedback from the public shows that most speeding occurs between Watervliet Shaker Road and Shaker Run. Because of this, it is recommended that the radar signs be placed along this segment of Sand Creek Road. Additionally, street trees should also be considered along Sand Creek Road between Watervliet Shaker Road and Shaker Run in order to visually narrow the corridor and deter speeding.

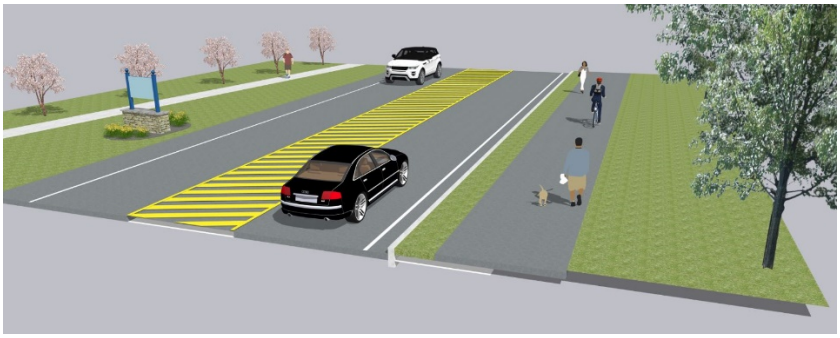
In addition to increased police presence, it is recommended that requests be submitted directly to the makers of GPS devices / applications and online maps to clearly label the restricted route for overweight vehicles. The advanced warning sign on the northern end of the study limits should be moved closer to the intersection with Watervliet Shaker Road to increase visibility for overweight trucks attempting to turn on Sand Creek Road. If this recommendation does not appear to mitigate truck traffic issues, the Village may consider installing flashing beacons on the warning signs to further increase visibility.

Corridor Enhancements

Of the locations investigated for improvements along the Sand Creek Road corridor, the following are recommended; the existing Village of Colonie sign between Shaker Run and Hunting Road, the adjacent areas between Computer Drive South and Wolf Road, and the Bauer Park trailhead.

Village of Colonie Gateway

Should a multi-use path be implemented, the existing Village of Colonie sign would be relocated to the opposite side of Sand Creek Road within the available Town right-of-way. The area would also benefit from street trees in order to give the appearance of a narrower corridor.



Bauer Park Trailhead

Since bicycles are not allowed on the boardwalks within Bauer Park, the Sand Creek Road trailhead would benefit from bicycle racks. Wayfinding signage is recommended to depict the trail loop and nearby trail connections as the area is frequently traveled by pedestrians and bicyclists.

Computer Drive South / Wolf Road Boulevard

The area surrounding the recommended mid-block crossing between Computer Drive South and Wolf Road would benefit from street trees and shrub plantings as well as bicycle racks and benches.

CHAPTER 7: Implementation Strategies

This chapter provides information to assist the Village of Colonie with implementation of the Sand Creek Road Complete Streets Concept Plan. Included below is a list of potential funding sources, a breakout of major elements of the concept plan and anticipated project partners.

Potential Funding Source

There are many potential funding sources that the Village of Colonie can pursue to help with implementation of the Sand Creek Road Complete Streets Concept Plan. The potential funding sources vary between federal, state, and local sources. It is important for the Village to submit applications for funding to the appropriate program, at the right time for the project, and with ample project information and support to show why the project is important to the Village and that the Village is prepared to provide the required local match. Since funding opportunities can arise throughout the year, it is imperative that the Village maintain contact with NYSDOT Region 1 Local Programs Bureau to ensure that no funding opportunities are missed.

Federal Funding Programs

Transportation Improvement Program (TIP): The Federal Highway Administration manages funding for all projects eligible under the Surface Transportation Block Grant Program (STBG), and the Highway Safety Improvement Program (HSIP). These reimbursement programs typically cover up to 80% of the project cost and the project Sponsor is responsible for the remaining 20%. Projects must be within the right-of-way of federal aid eligible roadways. Sand Creek Road is federal aid eligible. The following formula funds serve as the basis for project programming in the TIP:

- National Highway Performance Program (NHPP)
- Surface Transportation Block Grant Program (STP – Flexible and Large Urban)
- Highway Safety Improvement Program (HSIP)

For more information on specific eligibility of federal fund sources, please visit the Transportation Council website.

To apply for federal funding, the Village can respond to a TIP solicitation advertised by the Capital Region Transportation Council. The Transportation Council staff review applications and recommend projects to be funded, while the ultimate decision is made by various committees and is subject to public comment. The next solicitation for new TIP projects is expected to begin in September 2024.

State Funding Programs

NYSDOT TAP-CMAQ Program (TAP/CMAQ): Funding is available through NYSDOT to support bicycle, pedestrian, multi-use path, and non-motorized transportation-related projects and programs that support the goals of New York's national-led Climate Leadership and Community Protection Act (CLCPA). Although these programs are administered by NYSDOT, the fund sources are ultimately federal and require a 20% local match. Projects must be within the right-of-way of federal aid eligible roadways; all roadways evaluated as part of this study are eligible. Funded projects will receive a minimum of $500,000 and a maximum of $5,000,000 (prior to the 20% local match). Municipalities may request funding from two different fund sources:

- **Transportation Alternatives Program (TAP):** TAP funding helps communities deliver safe, transformative, and innovative transportation projects which expand, enhance, and modernize walking and biking options and connections to transit. TAP project funding focuses primarily on benefits for bicyclists, pedestrians, and other amenities for non-drivers. Projects are expected to improve mobility, accessibility, and the community's transportation character such that the street network is more vibrant, walkable, and safer for all transportation mode users, pedestrians, bicyclists, transit users, and drivers. Specific project categories directly related to the recommended projects include:
    - Planning, design and construction of infrastructure-related projects to improve non-driver safety and access to public transportation and enhanced mobility;
    - Safe routes to school (enable and encourages children to walk or bike to school); and
    - Planning, design and construction of on-road and off-road trail facilities for pedestrians, bicyclists and non-motorized transportation users.

- **The Congestion Mitigation and Air Quality Improvement (CMAQ) Program:** The CMAQ program provides funding to State and local entities for transportation projects that reduce vehicle emissions and traffic congestion in areas where air quality does not meet or previously did not attain the National Ambient Air Quality Standards.

- **Carbon Reduction Program (CRP):** The CRP program provides funding for projects that support the reduction of transportation emissions in small urban areas and rural areas by facilitating the use of alternatives to single-occupancy vehicle trips, the development of facilities for biking, walking, and other forms of nonmotorized transportation, and other emission reduction strategies.

In anticipation of this Study being completed in early 2024, the Village has submitted an application for TAP funding in the 2023 TAP-CMAQ-CRP solicitation for the design and construction of pedestrian and bicycle improvements along Sand Creek Road.

NYSDEC Climate Smart Communities Program (CSC): The Climate Smart Communities Grant program was established in 2016 to provide 50/50 matching grants to cities, towns, villages, and counties of the State of New York for eligible climate change mitigation, adaptation, and planning and assessment projects. Municipalities need not be registered or certified as a Climate Smart Community to apply for a grant. Implementation projects for which funding can be sought are those related to the reduction of greenhouse gas (typically transportation alternatives) and climate change adaptation. There are two funding pools for this grant. The first funding pool includes projects requesting funds ranging from $5 million to $100 million. The second funding pool includes projects requesting funds ranging from $250,000 to $4,999,999.

The NYSDEC typically requests applications for the Climate Smart Community Grant Program annually. Applications are prepared and submitted online using the NYS Consolidated Funding Application (CFA).

NYSDOT Multi-Modal Program (MM): The Multi-Modal Program is managed through NYSDOT's Local Programs Bureau and provides reimbursement funding for five (5) specifically authorized transportation capital project "modes" found in State Transportation Law 14-k and NYSDOT Program Policy - Rail, Port, Fixed Ferry Facilities, Airport, and State and Local Highway and Bridge projects. The program does not have a required local match.

To obtain funding through the NYSDOT's Multi-Modal Program, the Governor or a Legislative Member must nominate the project, and NYSDOT will be notified when funding is secured. Additional information and current opportunities should be discussed with the NYSDOT Region 1 Local Programs Bureau. The funding ranges for this grant are not specified.

Regional Economic Development Council (REDC) Grants: Through the REDCs, community, business, academic leaders, and members of the public in each region of the state put to work their unique knowledge and understanding of local priorities and assets to help direct state investment in support of job creation and economic growth. The Village may consider REDC grants to fund sidewalk projects that will connect residents to businesses or to public transportation.

REDC Grants may be applied for through the CFA, which allows applicants to be considered for multiple sources of funding for a project by filling out just one application. The CFAs are typically announced in May each year with applications due at the end of July. Several of the grants under the CFA have a minimum funding amount, ranging from $25,000 to $150,000.

Community Resiliency, Economic Sustainability and Technology (CREST) Grant Program: The CREST program, administered by the Dormitory Authority of the State of New York (DASNY), provides reimbursement-based grants of capital costs for projects undertaken by eligible entities. The minimum grant award is $50,000.

Empire State Development Grants (ESD): Available through the Consolidated Funding Application process, ESD provides funds for infrastructure investments under certain programs. Funds may be used to finance infrastructure investments with a goal of attracting new

businesses and expanding existing businesses, thereby fostering further investment. Infrastructure projects may include transportation, water and sewer, and parking, among other investments. Depending on the applicable program, a funding match may be required.

Local Funding Partners and Programs

National Grid Grants (GRID): National Grid Economic Development offers grant assistance for many different phases of economic development and community revitalization projects. National Grid may be able to help with staff assistance and resources from their Public Service Commission approved Economic Development Plan. These grants could be explored for assisting with relocation of existing utility poles and infrastructure, and installation of energy efficient site lighting. This grant can be considered in order to implement street lighting at intersections throughout the Village.

The Capital Region Transportation Council has partnered with the Capital District Regional Planning Commission (CDRPC) to provide the **Technical Assistance Program (Tech Assist)**. The Tech Assist Program is intended to fill gaps in local level planning needs and to enhance capacity to advance projects that resonate with one or more of the Quality Region Principles of the New Visions 2040 Regional Transportation Plan. The program offers The Capital Region Transportation Council and CDRPC staff time and expertise to local governments undertaking small scale community planning initiatives. The Tech Assist Program requires a minimum of a 25% local match for the total project cost. This program could be used to further study the level of service and capacity needs for the remaining intersections along Sand Creek Road that were not included in the concept study.

ADA Transition Plan: The Capital Region Transportation Council provides assistance to municipalities with collecting data on the condition of all sidewalks, curb ramps, roadway crossings, and pedestrian signals within the municipalities right-of-way.

Implementation

The recommendations identified in Chapter 6 together meet the project objectives; however, phasing of those improvements may be required to accommodate funding acquisition and approval processes. The Village may opt to seek funding for the design and construction of corridor improvements for a portion of Sand Creek Road, as opposed to the entire corridor. Alternatively, select elements could be implemented corridor-wide without implementing all recommended improvements. Many elements of the recommended corridor improvements are dependent on one another, and specific work elements cannot be broken into separate projects. For example, the intersection improvements could be implemented prior to the mid-block crossings and vice versa.

The following table details the recommendations identified during the Concept Plan development process and includes potential implementation partners and funding sources.

Many of the improvements recommended within this study are located within the Town of Colonie's jurisdiction. Coordination with the Town is required to implement these recommendations.

Table 7.1: Implementation Plan

Recommended Improvement	Potential Grant Funding Sources	Potential Project Partners
Pedestrian Signal Upgrades / Traffic Signals and Crosswalks	TIP, TAP, MM, CRP	Village of Colonie, Town of Colonie
Mid-Block Crossings	TIP, TAP, CRP	Village of Colonie, Town of Colonie
Curbed Median / Driveway Access	TIP, TAP, MM	Village of Colonie, Town of Colonie
Shared-Use Lanes	TIP, CMAQ, TAP, CRP	Village of Colonie
Multi-Use Path, Sidewalks and Curb Ramps	TAP, TIP, CFA, CRP	Property Owners, Village of Colonie, Town of Colonie
Bicycle / Pedestrian Amenities, Lighting	CFA, TIP, GRID	Village of Colonie
Landscaping Improvements	CFA, TAP	Village of Colonie
Access Management	CFA, TIP, TAP	Village of Colonie, Property Owners

Planning-Level Cost Estimates

Order-of-magnitude cost estimates have been prepared for the recommended improvements as summarized below. These estimates are based on recent unit pricing available through the NYSDOT's Pay Item Catalog for Region 1 projects and are intended to give a sense of potential costs for major elements recommended. Further refinement through design and engineering will refine these planning-level cost estimates. The cost estimate has been broken out into four (4) segments through the corridor and are listed below:

- Segment 1: Watervliet Shaker Road to Shaker Run
- Segment 2: Shaker Run to Mordella Road
- Segment 3: Mordella Road to Jodiro Lane
- Segment 4: Jodiro Lane to Wolf Road

Table 7.2: Cost Estimate Summary	
Sand Creek Road Improvements[2]	**Planning-Level Costs (2023 Dollars[1])**
Segment 1: Watervliet Shaker Road to Shaker Run	$4,640,000
Segment 2: Shaker Run to Mordella Road	$2,580,000
Segment 3: Mordella Road to Jodiro Lane	$1,320,000
Segment 4: Jodiro Lane to Wolf Road	$2,150,000
Total	**$10,690,000**

1. Totals includes work zone traffic control, survey, mobilization, contingencies, construction inspection, and design costs. ROW acquisition and incidentals costs are not included.
2. Segment 1 is located entirely within the Town of Colonie ROW. Segment 3 is located entirely within the Village of Colonie ROW. Segments 2 & 4 are located within both the Town and Village of Colonie ROWs.

A more detailed summary of estimated costs is provided in **Appendix H** that breaks up the costs based on type of recommendation within the segment.

Public Education

In addition to the physical design and construction of the recommended improvements, a public education component is needed to ensure the public is aware of the laws and recommended pedestrian safety best practices associated with pedestrian travel in urban corridors. With the new bicycle infrastructure in place, cyclists and pedestrians need to be educated on where the infrastructure is located and the regulations of the infrastructure to ensure the safety of vehicular users, pedestrians, and bicyclists alike. Education programs can include public workshops, school-based programs, and the distribution of educational materials to Village residents via websites, social media platforms, and mailings.

Maintenance

Per Village and Town of Colonie codes, it is the Village's and Town's responsibility to clear snow and ice from sidewalks adjacent to their rights-of-way, maintain grass areas between privately-owned property and the roadway, and to maintain all water service curb boxes at ground level. It is also the Village's and Town's responsibility to always maintain the sidewalks in good repair and in a safe condition for public use. Additionally, it is the Town and Village's responsibility to maintain vegetation along the road to prevent sight distance issues and to maintain the roadway striping.

Coordination and Approvals

Sidewalks and Curb Ramps

Due to the Village's ongoing effort to upgrade pedestrian infrastructure to meet ADA standards, all existing curb ramps shall be re-evaluated at the time of final design to determine the need for reconstruction.

Right-of-Way

It should be noted that the right-of-way boundaries depicted on the concept plans are based on a tax map level of accuracy and will need to be confirmed during design. If work is to be proposed outside of the highway boundary, right-of-way would need to be acquired from the adjacent property owners. Property access releases may also be required to perform the work proposed, such as minor grading behind the multi-use path.

NYSDOT

Coordination with the NYSDOT would be required in order to complete the work under and around the I-87 bridges as well as to make modifications to the existing stone aprons under the bridges. The NYSDOT will be given the opportunity to review the concept plans and provide feedback.

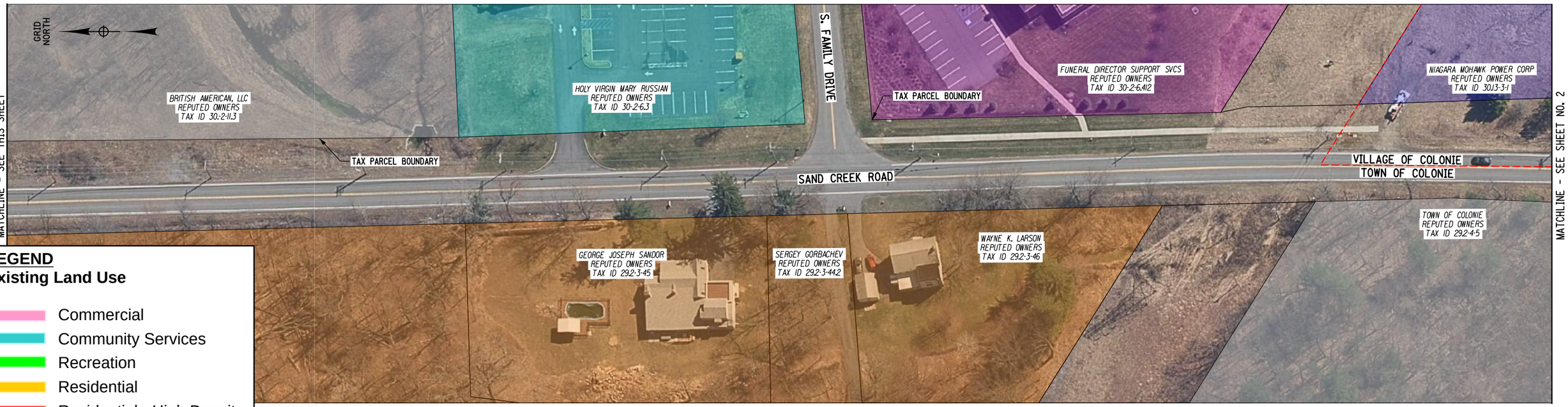
Town of Colonie

Several of the recommendations mentioned in Chapter 6 are within the Town of Colonie right-of-way. The Town was given the opportunity to review the concept plans and provide feedback.

The implementation of the multi-use path and the modifications of the Shaker Run signal would need to be coordinated with the Town's proposed trailhead parking lot at 620 Sand Creek Road.

APPENDIX A

PROPERTY OWNERSHIP / ZONING MAPS



LEGEND
Existing Land Use

- Commercial
- Community Services
- Recreation
- Residential
- Residential - High Density
- Vacant Land
- Industrial
- Village / Town Border

VILLAGE OF COLONIE SAND CREEK ROAD COMPLETE STREETS CONCEPT STUDY
PROPERTY OWNERSHIP / ZONING MAP - SHEET NO. 1

Engineering and Land Surveying, P.C.

Village of Colonie

LEGEND

Existing Land Use

- Commercial
- Community Services
- Recreation
- Residential
- Residential - High Density
- Vacant Land
- Industrial
- Village / Town Border

VILLAGE OF COLONIE SAND CREEK ROAD COMPLETE STREETS CONCEPT STUDY
PROPERTY OWNERSHIP / ZONING MAP - SHEET NO. 2

Engineering and Land Surveying, P.C.

Village of Colonie

LEGEND
Existing Land Use

- Commercial
- Community Services
- Recreation
- Residential
- Residential - High Density
- Vacant Land
- Industrial
- Village / Town Border

VILLAGE OF COLONIE SAND CREEK ROAD COMPLETE STREETS CONCEPT STUDY
PROPERTY OWNERSHIP / ZONING MAP - SHEET NO. 3

Engineering and Land Surveying, P.C.

Village of Colonie

MATCHLINE - SEE SHEET NO. 3

GRID NORTH

SUNSET BOULEVARD

JOHN BAIRD
REPUTED OWNERS
TAX ID 425-3-8

BOBBIE A. SWIATEK
REPUTED OWNERS
TAX ID 425-3-9

EVAN E. HARLEY
REPUTED OWNERS
TAX ID 425-3-17

ELEANOR LEWIS (LE)
REPUTED OWNERS
TAX ID 425-3-18

TOWN OF COLONIE
REPUTED OWNERS
TAX ID 421-1-1

TAX PARCEL BOUNDARY

SAND CREEK ROAD

TOWN OF COLONIE
VILLAGE OF COLONIE

I-87 SOUTHBOUND

MATCHLINE - SEE THIS SHEET

LOUIS J. BAUER
REPUTED OWNERS
TAX ID 425-2-93

ELLEN BAUER
REPUTED OWNERS
TAX ID 425-2-94

ARTHUR F. WHITE
REPUTED OWNERS
TAX ID 425-3-20

JENNIFER L. TETRAULT
REPUTED OWNERS
TAX ID 425-3-21

JO ANN COURT

RICHARD G. ROSETTI LLC
REPUTED OWNERS
TAX ID 425-3-70

HAOFAN LU
REPUTED OWNERS
TAX ID 425-3-55.1

JOSEPHINE N. GALLAGHER
REPUTED OWNERS
TAX ID 425-3-56

SAND CREEK REAL ESTATE GROUP
REPUTED OWNERS
TAX ID 425-3-57

JODIRO LANE

MATCHLINE - SEE THIS SHEET

I-87 NORTHBOUND

GRID NORTH

COMPUTER DRIVE SOUTH

WINDSOR WOLF ROAD
PROPERTIES LLC
REPUTED OWNERS
TAX ID 421-1-3

FOUR LEAF CLOVER LLC
REPUTED OWNERS
TAX ID 421-1-2

WOLF ROAD

GLENCOL
PROPERTIES INC
REPUTED OWNERS
TAX ID 421-2-1

TOWN OF COLONIE
VILLAGE OF COLONIE

SAND CREEK ROAD

TAX PARCEL BOUNDARY

PICOTTE ASSOCIATES
REPUTED OWNERS
TAX ID 421.0-1-1

PICOTTE ASSOCIATES
REPUTED OWNERS
TAX ID 421.0-1-2

PICOTTE ASSOCIATES
REPUTED OWNERS
TAX ID 421.0-1-4

88 WOLD ROAD REALTY LLC
REPUTED OWNERS
TAX ID 421.0-1-3

WOLF ROAD

LORIN PROPERTIES II, LLC
REPUTED OWNERS
TAX ID 421-3-12.1

LEGEND
Existing Land Use

- Commercial
- Community Services
- Recreation
- Residential
- Residential - High Density
- Vacant Land
- Industrial
- Village / Town Border

VILLAGE OF COLONIE SAND CREEK ROAD COMPLETE STREETS CONCEPT STUDY
PROPERTY OWNERSHIP / ZONING MAP - SHEET NO. 4

CAPITAL REGION Transportation Council

Engineering and Land Surveying, P.C.

Village of Colonie

SUMMARY TABLE OF MAP AND AMENDMENTS

DATE	LOCAL LAW, NUMBER AND TITLE	REFER TO MAP(S)
4/18/16	LOCAL LAW 7 OF 2016	29.20

I CERTIFY THAT THE ZONING BOUNDARIES ON THIS MAP WERE ADOPTED BY THE VILLAGE BOARD OF THE VILLAGE OF COLONIE, ALBANY COUNTY NEW YORK AT A MEETING OF 9-25-95 AS THE OFFICIAL ZONING MAP OF THE VILLAGE OF COLONIE.

DATE _____ VILLAGE CLERK _____

THE TAX MAP INFORMATION CONTAINED IN THIS DOCUMENT WAS OBTAINED FROM THE COUNY OF ALBANY AND WAS LAST UPDATED IN NOVEMBER 2004. NO ZONING BOUNDARY INFORMATION WAS AMENDED AS A RESULT OF THE TAX MAP UPDATE.

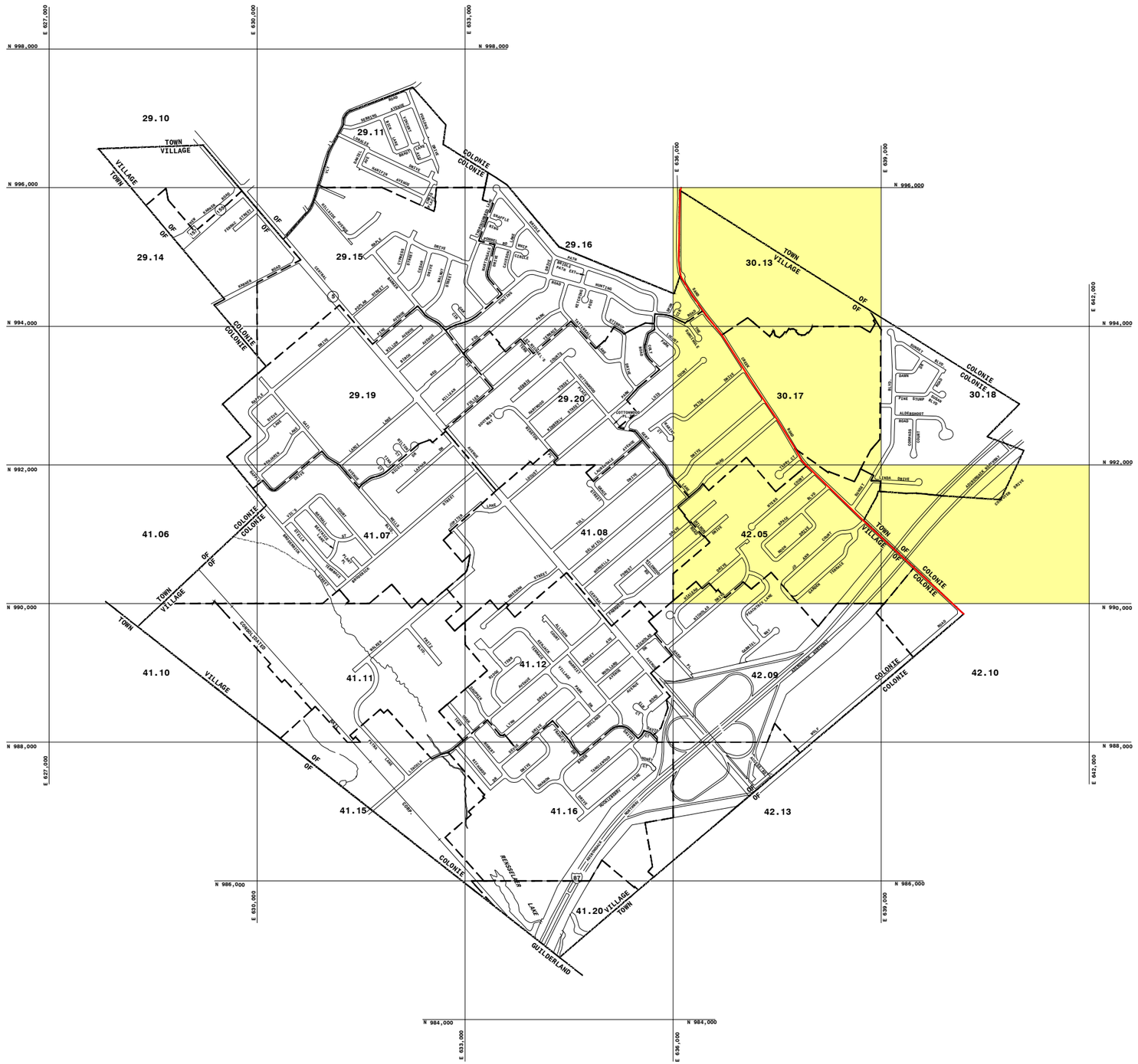
VILLAGE OF COLONIE
ALBANY COUNTY, NEW YORK

ZONING MAP

MAYOR
HON. THOMAS TOBIN

TRUSTEES
EDWARD SIM
PATTY SCHWARZ LOCKART
ART WHITE
JAMES R. RUBINO

VILLAGE CLERK
JAMIE BLOT



APPROVED BY:

NEW YORK STATE BOARD OF
EQUALIZATION AND ASSESSMENT

AUTHORIZED SIGNATURE: S/ JOSEPH TAGGERT

DATE: FEB. 9,1981 CASE NUMBER: 1746

THIS MAP PREPARED FOR ASSESSMENT PURPOSES ONLY
AND NOT TO BE USED FOR THE CONVEYANCE OF PROPERTY

PREPARED BY
SMITH & MAHONEY, ENGINEERS & SURVEYORS
ALBANY, NEW YORK

PREPARED FOR
REAL PROPERTY TAX SERVICE AGENCY
ALBANY COUNTY, NEW YORK

MODULAR MAP BREAKDOWN

74.00

1"=400'
(8,000' x 12,000')

01	02
03	04

1"=200'
(4,000' x 6,000')

05	06	07	08
09	10	11	12
13	14	15	16
17	18	19	20

1"=100'
(2,000' x 3,000')

21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44
45	46	47	48	49	50	51	52
53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68
69	70	71	72	73	74	75	76
77	78	79	80	81	82	83	84

1"=50'
(1,000' x 1,500')

REVISION TABLE

DATE	BY	CHANGES OR ADDITIONS
1-28-02	JWV	ADDED CUL-DE-SAC BREEMAN STREET/ REMOVED PORTION STEVE LA.
9-29-04	JKD	PARK PLACE REMOVED PER 2761-605
11-19-04	JKD	ADDED GABRIEL SUBDIVISION, MAP 11567 DRAWER 172

LEGEND

COUNTY LINE		SECTION NUMBER (1"=400')	74.00	INTERSTATE HIGHWAY	87
TOWN LINE		SECTION NUMBER (1"=200')	74.01	U.S. HIGHWAY	9
VILLAGE, CITY LINE		SECTION NUMBER (1"=100')	74.05	N.Y.S HIGHWAY	85
SECTION LINE		SECTION NUMBER (1"=50')	74.21	COUNTY HIGHWAY	6
RAIL ROAD		MAJOR HIGHWAY		STREET OR TOWN ROAD	BY NAME
STREAM OR DITCH		ALL OTHER ROADS		MAP LIMIT LINE	-----------

ALBANY
COUNTY

TAX MAP
VILLAGE OF COLONIE
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

0 600 1200
SCALE:1"=600'

INDEX MAP

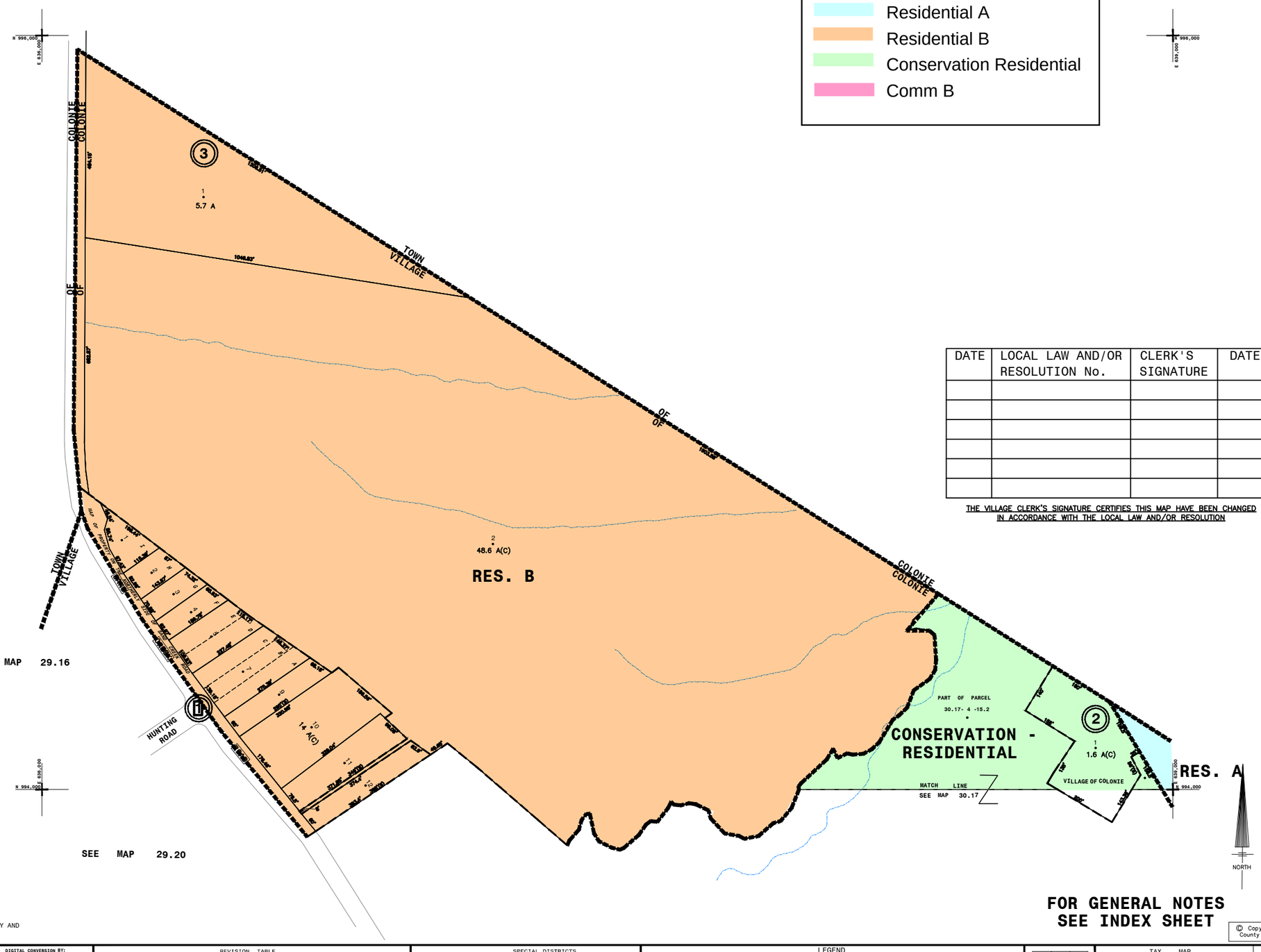
TAXABLE STATUS DATE: 1/1/05

LEGEND

- Residential A
- Residential B
- Conservation Residential
- Comm B

DATE	LOCAL LAW AND/OR RESOLUTION No.	CLERK'S SIGNATURE	DATE

THE VILLAGE CLERK'S SIGNATURE CERTIFIES THIS MAP HAVE BEEN CHANGED IN ACCORDANCE WITH THE LOCAL LAW AND/OR RESOLUTION



FOR GENERAL NOTES
SEE INDEX SHEET

THIS MAP PREPARED FOR ASSESSMENT PURPOSES ONLY AND NOT TO BE USED FOR THE CONVEYANCE OF PROPERTY

PREPARED BY
SMITH & MAHONEY, ENGINEERS & SURVEYORS
ALBANY, NEW YORK
PREPARED FOR
REAL PROPERTY TAX SERVICE AGENCY
ALBANY COUNTY, NEW YORK

DIGITAL CONVERSION BY:
THE SANBORN MAP COMPANY INC.
PELHAM, NEW YORK

REVISION TABLE

DATE	BY	CHANGES OR ADDITIONS	DATE	BY	CHANGES OR ADDITIONS
12-8-82	DB	ADDED PARCEL 3-1 PER 2231-345			
12-24-91	LML	ADDED PARCEL 3-1 PER 2447-853 REV.4-15			
10-21-97	DPL	MERGE 1-6 & 1-5 PER 2579, P-915			

SPECIAL DISTRICTS

TYPE	SYMBOL	DISTRICT NAME	TYPE	SYMBOL	DISTRICT NAME
Fire	F		Water	W	

LEGEND

PROPERTY LINE	CITY LINE	TAX DISTRICT LINE	GREAT LOT NO. 4
ORIGINAL LOT LINE	VILLAGE LINE	FIRE DISTRICT LINE F	CALCULATED ACREAGE 7.1 A (C)
RAIL ROAD	TOWN LINE	DENOTES COMMON OWNER	DEED ACREAGE 11.2 A
STREAM OR DITCH	BLOCK LIMIT	TAX MAP BLOCK NO. 4	SCALED DIMENSION 725'(S)
ROAD OR RAIL ROAD BNDY.	GREAT LOT LINE	TAX MAP PARCEL NO. 74.12-1-10	DEED DIMENSION 53.67'
STREET CENTERLINE	EASEMENT LINE E	STREET NUMBER 14	VISUAL CENTER OF PARCEL +
COUNTY LINE	WATER DISTRICT LINE W	FILED PLAN LOT NO. 17	

29.16		
29.20	30.17	30.18

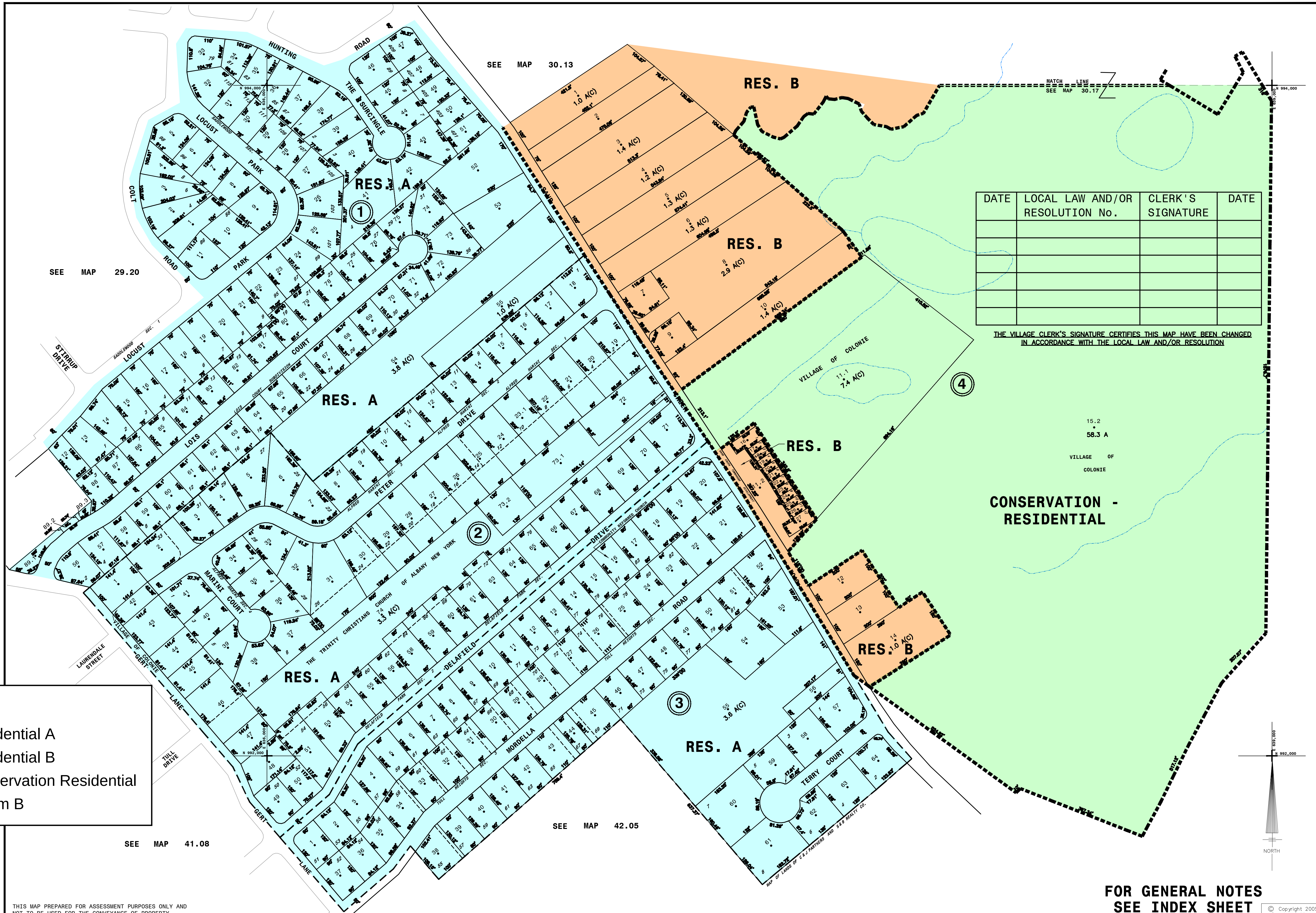
SHEET INDEX

TAX MAP
VILLAGE OF COLONIE
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

30.13

SCALE: 1"=200'

TAXABLE STATUS DATE: 1/1/05



DATE	LOCAL LAW AND/OR RESOLUTION No.	CLERK'S SIGNATURE	DATE

THE VILLAGE CLERK'S SIGNATURE CERTIFIES THIS MAP HAVE BEEN CHANGED IN ACCORDANCE WITH THE LOCAL LAW AND/OR RESOLUTION

LEGEND

- Residential A
- Residential B
- Conservation Residential
- Comm B

THIS MAP PREPARED FOR ASSESSMENT PURPOSES ONLY AND NOT TO BE USED FOR THE CONVEYANCE OF PROPERTY

FOR GENERAL NOTES SEE INDEX SHEET

PREPARED BY
SMITH & MAHONEY, ENGINEERS & SURVEYORS
ALBANY, NEW YORK
PREPARED FOR
REAL PROPERTY TAX SERVICE AGENCY
ALBANY COUNTY, NEW YORK

DIGITAL CONVERSION BY:
THE SANBORN MAP COMPANY INC.
PELHAM, NEW YORK

REVISION TABLE

DATE	BY	CHANGES OR ADDITIONS	DATE	BY	CHANGES OR ADDITIONS
10-28-81	DB	DELETED PARCELS 2-52,2-57 AND 2-62, COMBINED WITH 2-74			
8-31-82	DB	ADDED PARCELS 1-56-89 PER SUBD. MAP OF LOIS COUIT # 5865			
10-8-85	MRM	ADDED PARCEL 2-75 PER 2288-1036			
6-18-86	GAL	ADDED PARCEL 4-10.2 PER PAD 6411-172			
11-5-90	DB	ADDED 3-(57-64) PER MAP # 9120			
12-2-92	RAM	CREATED PARCELS 1-89.2 & 1-89.3 PER 2459-459 & 462			
1-17-95	RJM	MERGED 2-75 INTO 2-2 PER MERGE FORM			

SPECIAL DISTRICTS

TYPE	SYMBOL	DISTRICT NAME	TYPE	SYMBOL	DISTRICT NAME
Fire	—F—		Water	—W—	

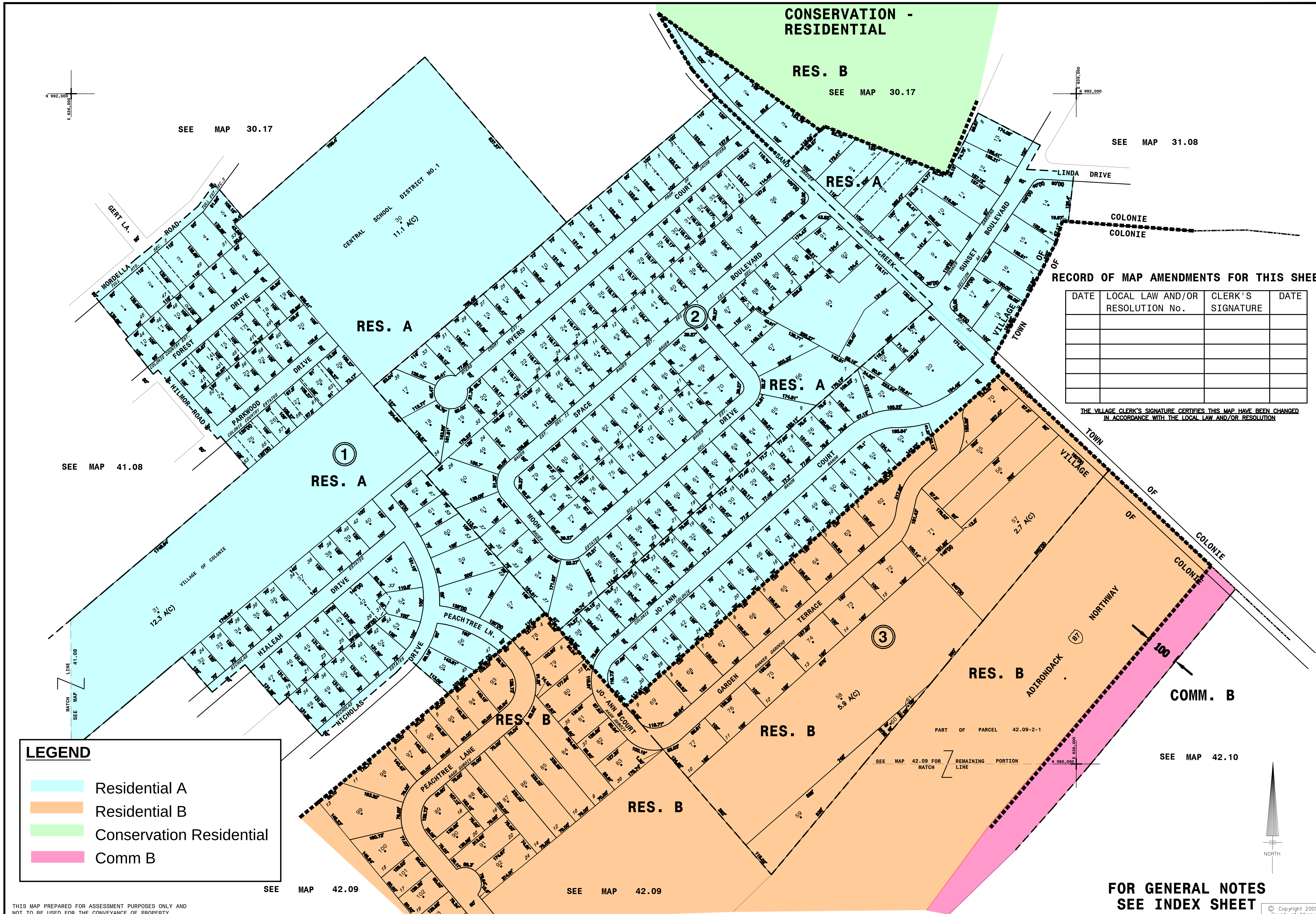
SHEET INDEX

29.16	30.13	
29.20	X	30.18
41.08	42.05	

TAX MAP
VILLAGE OF COLONIE
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK
SCALE: 1"=200'

30.17

TAXABLE STATUS DATE: 1/1/05



CONSERVATION - RESIDENTIAL
RES. B
SEE MAP 30.17
SEE MAP 30.17
SEE MAP 31.08
SEE MAP 41.08
SEE MAP 42.09
SEE MAP 42.09
SEE MAP 42.10
RES. A
RES. A
RES. A
RES. A
RES. B
RES. B
RES. B
RES. B
COMM. B
CENTRAL SCHOOL DISTRICT NO.1
30 11.1 A(C)
31 12.3 A(C)
57 2.7 A(C)
58 5.9 A(C)
VILLAGE OF COLONIE
TOWN OF COLONIE
LINDA DRIVE
COLONIE
COLONIE
SAND CREEK
SUNSET BOULEVARD
PEACHTREE LN.
PEACHTREE LANE
JO-ANN COURT
JO-ANN DRIVE
HIALEAH DRIVE
NICHOLAS DRIVE
SHAKER GARDEN TERRACE
ADIRONDACK NORTHWAY
87
PARKWOOD DRIVE
FOREST DRIVE
HILMOR ROAD
MORDELLA ROAD
GERT LA.
MYERS COURT
MOON SPACE DRIVE
BOULEVARD
100
PART OF PARCEL 42.09-2-1
SEE MAP 42.09 FOR REMAINING PORTION
MATCH LINE
MATCH LINE SEE MAP 41.08
NORTH
N 992,000
E 636,000
N 992,000
E 639,000
N 990,000
E 639,000

LEGEND

- Residential A
- Residential B
- Conservation Residential
- Comm B

RECORD OF MAP AMENDMENTS FOR THIS SHEET

DATE	LOCAL LAW AND/OR RESOLUTION No.	CLERK'S SIGNATURE	DATE

THE VILLAGE CLERK'S SIGNATURE CERTIFIES THIS MAP HAVE BEEN CHANGED IN ACCORDANCE WITH THE LOCAL LAW AND/OR RESOLUTION

FOR GENERAL NOTES SEE INDEX SHEET

THIS MAP PREPARED FOR ASSESSMENT PURPOSES ONLY AND NOT TO BE USED FOR THE CONVEYANCE OF PROPERTY

PREPARED BY SMITH & MAHONEY, ENGINEERS & SURVEYORS ALBANY, NEW YORK

PREPARED FOR REAL PROPERTY TAX SERVICE AGENCY ALBANY COUNTY, NEW YORK

DIGITAL CONVERSION BY: THE SANBORN MAP COMPANY INC. PELHAM, NEW YORK

REVISION TABLE

DATE	BY	CHANGES OR ADDITIONS
11-7-80	DB	DELETED PARCEL 2-5, MERGED INTO 2-2
12-19-80	DB	DELETED PARCEL 1-16, MERGED INTO 1-15
1-23-97	JP	REVISED PARCEL 1-31
3-2-03	JWV	CREATED 3-78 THRU 103 PER MAP 11286/172 ALSO REVISED 42.09-1-51.1

TAX MAP VILLAGE OF COLONIE TOWN OF COLONIE ALBANY COUNTY, NEW YORK

42.05

SCALE: 1"=200'

SEE MAP 42.05

SEE MAP 42.09

ALL LAND THIS MAP COMM. B

RECORD OF MAP AMENDMENTS FOR THIS SHEET

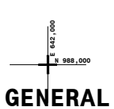
DATE	LOCAL LAW AND/OR RESOLUTION No.	CLERK'S SIGNATURE	DATE

THE VILLAGE CLERK'S SIGNATURE CERTIFIES THIS MAP HAVE BEEN CHANGED IN ACCORDANCE WITH THE LOCAL LAW AND/OR RESOLUTION

LEGEND

- Residential A
- Residential B
- Conservation Residential
- Comm B

THIS MAP PREPARED FOR ASSESSMENT PURPOSES ONLY AND NOT TO BE USED FOR THE CONVEYANCE OF PROPERTY



NORTH

FOR GENERAL NOTES SEE INDEX SHEET

PREPARED BY
SMITH & MAHONEY, ENGINEERS & SURVEYORS
ALBANY, NEW YORK
PREPARED FOR
REAL PROPERTY TAX SERVICE AGENCY
ALBANY COUNTY, NEW YORK

DIGITAL CONVERSION BY:
THE SANBORN MAP COMPANY INC.
PELHAM, NEW YORK

REVISION TABLE

DATE	BY	CHANGES OR ADDITIONS	DATE	BY	CHANGES OR ADDITIONS
10-17-80	DB	DELETED PARCELS 1-5&6, MERGED INTO 1-1 AS PER REQUEST OF ASSESSOR			
9-29-04	JKD	ADDED PARCEL 1-10 PER 2761-405 (PARK PLACE)			

SPECIAL DISTRICTS

TYPE	SYMBOL	DISTRICT NAME	TYPE	SYMBOL	DISTRICT NAME
Fire	F		Water	W	

LEGEND

PROPERTY LINE
ORIGINAL LOT LINE
RAIL ROAD
STREAM OR DITCH
ROAD OR RAIL ROAD BNDY.
STREET CENTERLINE
COUNTY LINE
CITY LINE
VILLAGE LINE
TOWN LINE
BLOCK LIMIT
GREAT LOT LINE
EASEMENT LINE
WATER DISTRICT LINE W
TAX DISTRICT LINE
FIRE DISTRICT LINE F
DENOTES COMMON OWNER
TAX MAP BLOCK NO. 10
TAX MAP PARCEL NO. 74.12-1-10
STREET NUMBER 14
FILED PLAN LOT NO. 17
GREAT LOT NO. 2
CALCULATED ACREAGE 7.1 A (C) 11.2 A
DEED ACREAGE 725'(S)
SCALED DIMENSION 53.67'
DEED DIMENSION
VISUAL CENTER OF PARCEL

42.05		
42.09		
42.13		

SHEET INDEX

TAX MAP
VILLAGE OF COLONIE
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK
0 100 200
SCALE: 1"=200'

42.10

TAXABLE STATUS DATE: 3/1/05

Town of Colonie

Zoning District Map
Adopted January 4, 2007 by
Local Law #1 of 2007

Legend

Zoning Overlay Districts
- Airport Noise Overlay
- Conservation Development Overlay
- Historic Overlay

Zoning Districts
- Airport Business Area (ABA)
- Cemetery (CEM)
- Commercial Office (CO)
- Commercial Office Residential (COR)
- Highway Commercial Office Residential (HCOR)
- Industrial
- Land Conservation
- Multi-Family Residential (MFR)
- Neighborhood Commercial Office Residential (NCOR)
- Office Residential (OR)
- PDD
- Single-Family Residential (SFR)

NOTES:
Zoning Not Included for Villages of Menands and Colonie.

Zoning District Boundaries as shown are based on Digitized Tax Map Information. Refer to the "Establishment of Zoning Districts and Map" Article of the Town of Colonie Land Use Law for Guidance in the Interpretation of District Boundaries.

Zoning District Boundaries Established with respect to Street Centerlines or Boundaries are taken from the centerline or right-of-way line as existing at the time of the Zoning District Enactment, and may be slightly different from the boundaries as shown of this map.

Buffer Area - Indicates area in which no building, parking, storage, or loading area may be developed, and grading or removal of live vegetation is restricted. (See Town of Colonie Land Use Law for specific restrictions)

All Zoning Districts and Overlay Districts shown on this map were established by Local Law #1 of 2007, unless otherwise noted.

This map was created by the Town of Colonie. It should be used for reference purposes only. Reasonable efforts have been made to ensure the accuracy of this map and the quality of the GIS data. The Town of Colonie disclaims any responsibilities or liabilities from the use of this map for any other purpose other than its intended use.

Stream and Water Body data provided by NYSDOT.
Railroad data provided by Albany County.
All other data created by or for the Town of Colonie.

** Road Centerline data is current through February 2018.

Scale 1:24,000

0 0.425 0.85 1.7
Miles

0 1,950 3,900 7,800 11,700
Feet

AMENDMENTS:
(Local Law Number and Date of Adoption)

LL# 10-07, 06-28-07
LL# 11-07, 07-12-07
LL# 12-07, 07-26-07
LL# 14-07, 10-11-07
LL# 19-07, 12-20-07
LL# 20-07, 12-20-07
LL# 06-08, 07-24-08
LL# 08-08, 08-28-08
LL# 09-08, 10-30-08
LL# 02-09, 03-26-09
LL# 06-09, 06-25-09
LL# 05-10, 07-29-10
LL# 11-11, 02-03-11
LL# 18-11, 06-09-11
LL# 05-12, 07-26-12
LL# 08-12, 08-09-12
LL# 09-12, 08-23-12
LL# 21-13, 10-15-13
LL# 22-13, 10-15-13
LL# 24-13, 10-15-13
LL# 25-13, 10-30-13
LL# 02-15, 01-22-15 (rescinds LL# 11-07)
LL# 07-15, 05-14-15
LL# 11-15, 09-17-15
LL# 05-16, 05-26-16
LL# 07-16, 05-26-16
LL# 01-17, 03-09-17
LL# 03-17, 03-23-17

Reference Map

APPENDIX B

TRAFFIC ANALYSIS

EXISTING
TRAFFIC DATA

MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1417
Collected By: N. Gibson
Other Comments:

File Name : MJ1820_Sand Creek_Hunting_AM
Site Code : 18200101
Start Date : 3/7/2023
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

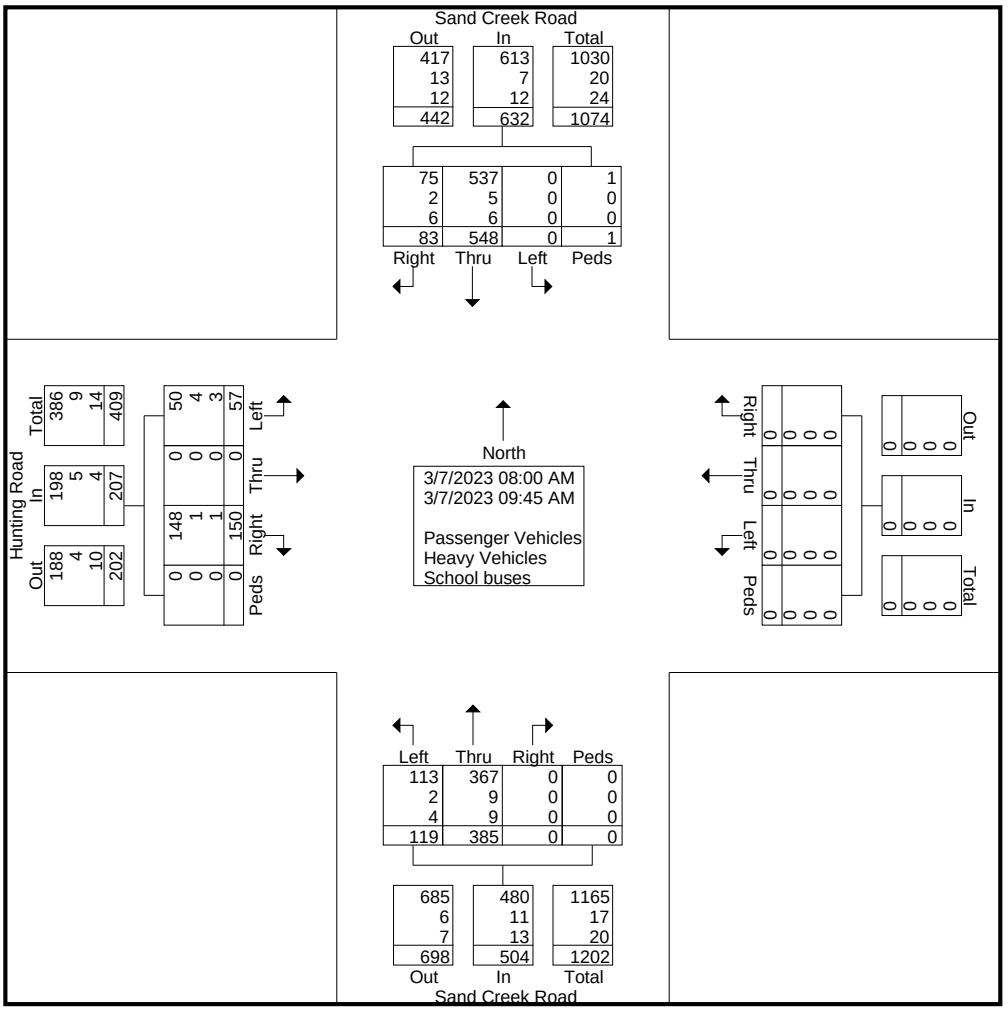
	Sand Creek Road Southbound					Westbound					Sand Creek Road Northbound					Hunting Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
08:00 AM	0	110	13	1	124	0	0	0	0	0	16	64	0	0	80	9	0	21	0	30	234
08:15 AM	0	85	14	0	99	0	0	0	0	0	14	53	0	0	67	8	0	20	0	28	194
08:30 AM	0	64	10	0	74	0	0	0	0	0	13	49	0	0	62	7	0	27	0	34	170
08:45 AM	0	66	11	0	77	0	0	0	0	0	10	50	0	0	60	7	0	15	0	22	159
Total	0	325	48	1	374	0	0	0	0	0	53	216	0	0	269	31	0	83	0	114	757
09:00 AM	0	58	5	0	63	0	0	0	0	0	18	49	0	0	67	9	0	17	0	26	156
09:15 AM	0	58	12	0	70	0	0	0	0	0	11	36	0	0	47	7	0	12	0	19	136
09:30 AM	0	55	7	0	62	0	0	0	0	0	21	39	0	0	60	3	0	18	0	21	143
09:45 AM	0	52	11	0	63	0	0	0	0	0	16	45	0	0	61	7	0	20	0	27	151
Total	0	223	35	0	258	0	0	0	0	0	66	169	0	0	235	26	0	67	0	93	586
Grand Total	0	548	83	1	632	0	0	0	0	0	119	385	0	0	504	57	0	150	0	207	1343
Apprch %	0	86.7	13.1	0.2		0	0	0	0		23.6	76.4	0	0		27.5	0	72.5	0		
Total %	0	40.8	6.2	0.1	47.1	0	0	0	0	0	8.9	28.7	0	0	37.5	4.2	0	11.2	0	15.4	
Passenger Vehicles	0	537	75	1	613	0	0	0	0	0	113	367	0	0	480	50	0	148	0	198	1291
% Passenger Vehicles	0	98	90.4	100	97	0	0	0	0	0	95	95.3	0	0	95.2	87.7	0	98.7	0	95.7	96.1
Heavy Vehicles	0	5	2	0	7	0	0	0	0	0	2	9	0	0	11	4	0	1	0	5	23
% Heavy Vehicles	0	0.9	2.4	0	1.1	0	0	0	0	0	1.7	2.3	0	0	2.2	7	0	0.7	0	2.4	1.7
School buses	0	6	6	0	12	0	0	0	0	0	4	9	0	0	13	3	0	1	0	4	29
% School buses	0	1.1	7.2	0	1.9	0	0	0	0	0	3.4	2.3	0	0	2.6	5.3	0	0.7	0	1.9	2.2

MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1417
Collected By: N. Gibson
Other Comments:

File Name : MJ1820_Sand Creek_Hunting_AM
Site Code : 18200101
Start Date : 3/7/2023
Page No : 2



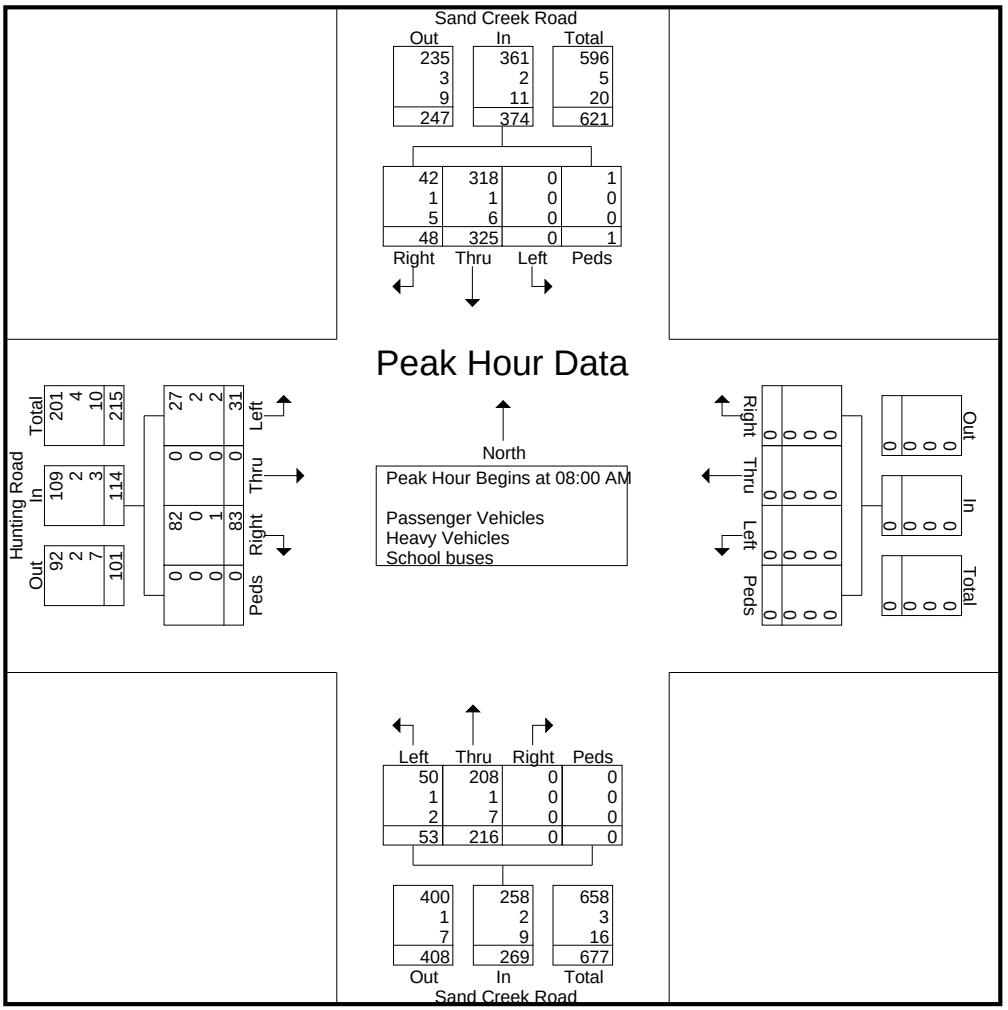
	Sand Creek Road Southbound					Westbound					Sand Creek Road Northbound					Hunting Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 8:00:00 AM to 9:45:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 8:00:00 AM																					
8:00:00 AM	0	110	13	1	124	0	0	0	0	0	16	64	0	0	80	9	0	21	0	30	234
8:15:00 AM	0	85	14	0	99	0	0	0	0	0	14	53	0	0	67	8	0	20	0	28	194
8:30:00 AM	0	64	10	0	74	0	0	0	0	0	13	49	0	0	62	7	0	27	0	34	170
8:45:00 AM	0	66	11	0	77	0	0	0	0	0	10	50	0	0	60	7	0	15	0	22	159
Total Volume	0	325	48	1	374	0	0	0	0	0	53	216	0	0	269	31	0	83	0	114	757
% App. Total	0	86.9	12.8	0.3		0	0	0	0		19.7	80.3	0	0		27.2	0	72.8	0		
PHF	.000	.739	.857	.250	.754	.000	.000	.000	.000	.000	.828	.844	.000	.000	.841	.861	.000	.769	.000	.838	.809
Passenger Vehicles	0	318	42	1	361	0	0	0	0	0	50	208	0	0	258	27	0	82	0	109	728
% Passenger Vehicles	0	97.8	87.5	100	96.5	0	0	0	0	0	94.3	96.3	0	0	95.9	87.1	0	98.8	0	95.6	96.2
Heavy Vehicles	0	1	1	0	2	0	0	0	0	0	1	1	0	0	2	2	0	0	0	2	6
% Heavy Vehicles	0	0.3	2.1	0	0.5	0	0	0	0	0	1.9	0.5	0	0	0.7	6.5	0	0	0	1.8	0.8
School buses	0	6	5	0	11	0	0	0	0	0	2	7	0	0	9	2	0	1	0	3	23
% School buses	0	1.8	10.4	0	2.9	0	0	0	0	0	3.8	3.2	0	0	3.3	6.5	0	1.2	0	2.6	3.0

MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1417
Collected By: N. Gibson
Other Comments:

File Name : MJ1820_Sand Creek_Hunting_AM
Site Code : 18200101
Start Date : 3/7/2023
Page No : 3



MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1414
Collected By: C. Detrick
Other Comments:

File Name : MJ1820_Sand Creek_Computer Drive_AM
Site Code : 10700101
Start Date : 3/7/2023
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

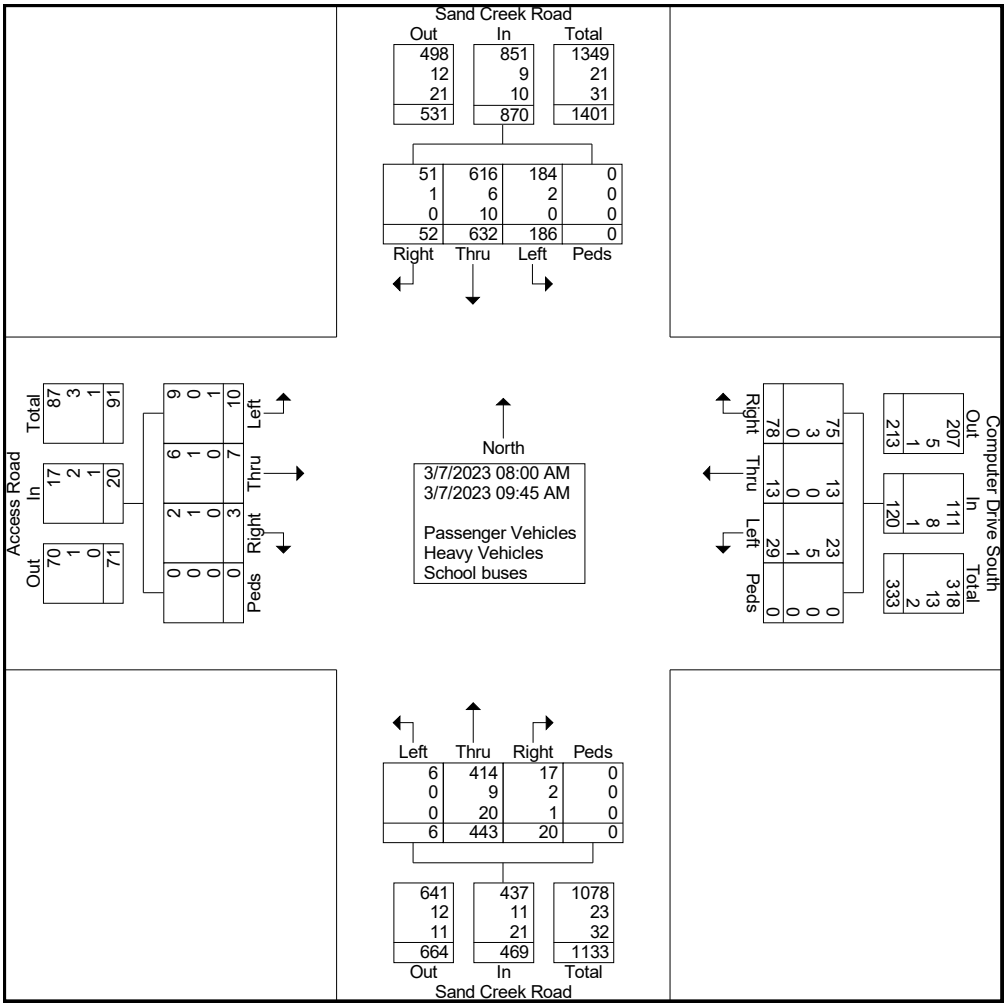
	Sand Creek Road Southbound					Computer Drive South Westbound					Sand Creek Road Northbound					Access Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
08:00 AM	27	134	11	0	172	2	2	9	0	13	1	80	4	0	85	2	1	0	0	3	273
08:15 AM	26	81	6	0	113	1	2	11	0	14	1	54	3	0	58	1	1	1	0	3	188
08:30 AM	24	83	8	0	115	3	0	11	0	14	1	55	5	0	61	0	1	0	0	1	191
08:45 AM	17	72	8	0	97	6	4	9	0	19	0	55	2	0	57	0	1	0	0	1	174
Total	94	370	33	0	497	12	8	40	0	60	3	244	14	0	261	3	4	1	0	8	826
09:00 AM	20	59	12	0	91	8	2	7	0	17	1	57	0	0	58	2	1	1	0	4	170
09:15 AM	27	73	4	0	104	2	1	7	0	10	0	40	2	0	42	3	1	0	0	4	160
09:30 AM	24	61	2	0	87	3	2	13	0	18	1	54	1	0	56	1	0	1	0	2	163
09:45 AM	21	69	1	0	91	4	0	11	0	15	1	48	3	0	52	1	1	0	0	2	160
Total	92	262	19	0	373	17	5	38	0	60	3	199	6	0	208	7	3	2	0	12	653
Grand Total	186	632	52	0	870	29	13	78	0	120	6	443	20	0	469	10	7	3	0	20	1479
Apprch %	21.4	72.6	6	0		24.2	10.8	65	0		1.3	94.5	4.3	0		50	35	15	0		
Total %	12.6	42.7	3.5	0	58.8	2	0.9	5.3	0	8.1	0.4	30	1.4	0	31.7	0.7	0.5	0.2	0	1.4	
Passenger Vehicles	184	616	51	0	851	23	13	75	0	111	6	414	17	0	437	9	6	2	0	17	1416
% Passenger Vehicles	98.9	97.5	98.1	0	97.8	79.3	100	96.2	0	92.5	100	93.5	85	0	93.2	90	85.7	66.7	0	85	95.7
Heavy Vehicles	2	6	1	0	9	5	0	3	0	8	0	9	2	0	11	0	1	1	0	2	30
% Heavy Vehicles	1.1	0.9	1.9	0	1	17.2	0	3.8	0	6.7	0	2	10	0	2.3	0	14.3	33.3	0	10	2
School buses	0	10	0	0	10	1	0	0	0	1	0	20	1	0	21	1	0	0	0	1	33
% School buses	0	1.6	0	0	1.1	3.4	0	0	0	0.8	0	4.5	5	0	4.5	10	0	0	0	5	2.2

MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1414
Collected By: C. Detrick
Other Comments:

File Name : MJ1820_Sand Creek_Computer Drive_AM
Site Code : 10700101
Start Date : 3/7/2023
Page No : 2



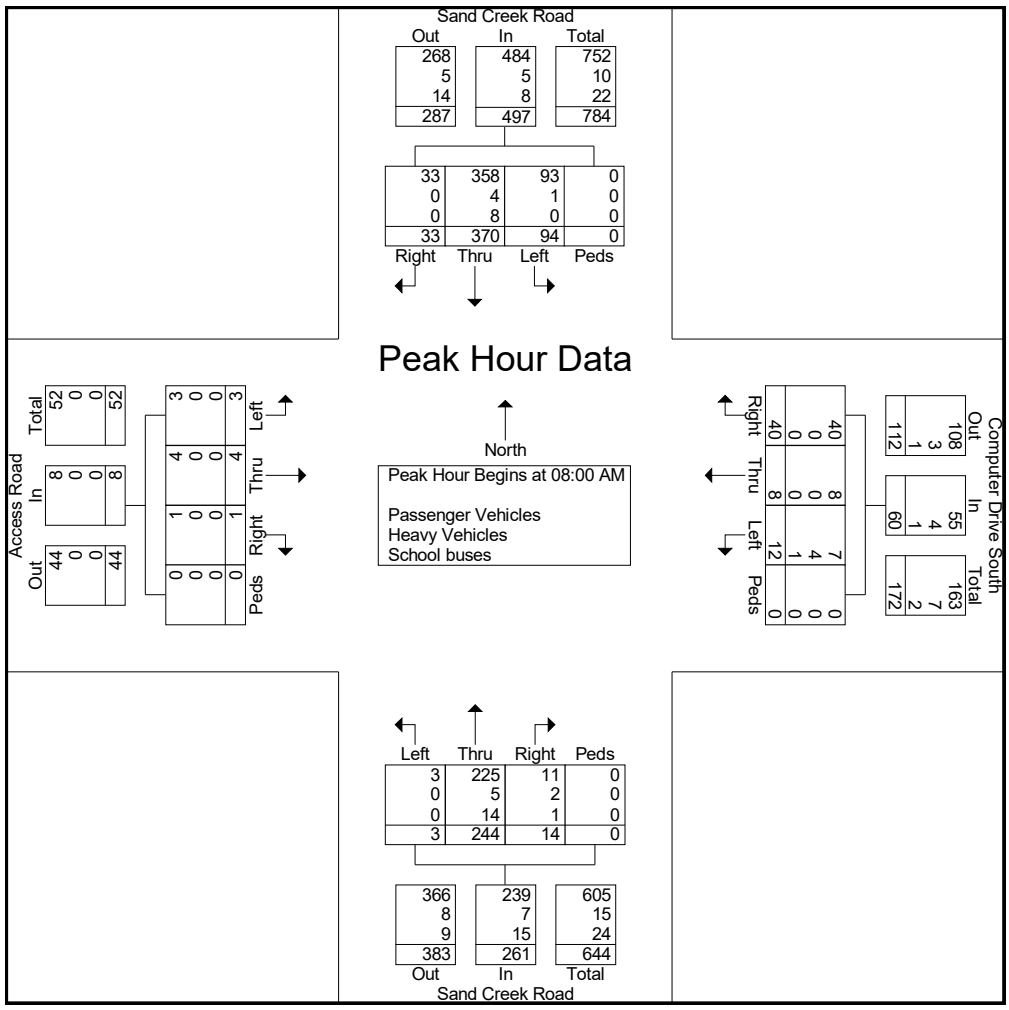
	Sand Creek Road Southbound					Computer Drive South Westbound					Sand Creek Road Northbound					Access Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	27	134	11	0	172	2	2	9	0	13	1	80	4	0	85	2	1	0	0	3	273
08:15 AM	26	81	6	0	113	1	2	11	0	14	1	54	3	0	58	1	1	1	0	3	188
08:30 AM	24	83	8	0	115	3	0	11	0	14	1	55	5	0	61	0	1	0	0	1	191
08:45 AM	17	72	8	0	97	6	4	9	0	19	0	55	2	0	57	0	1	0	0	1	174
Total Volume	94	370	33	0	497	12	8	40	0	60	3	244	14	0	261	3	4	1	0	8	826
% App. Total	18.9	74.4	6.6	0		20	13.3	66.7	0		1.1	93.5	5.4	0		37.5	50	12.5	0		
PHF	.870	.690	.750	.000	.722	.500	.500	.909	.000	.789	.750	.763	.700	.000	.768	.375	1.00	.250	.000	.667	.756
Passenger Vehicles	93	358	33	0	484	7	8	40	0	55	3	225	11	0	239	3	4	1	0	8	786
% Passenger Vehicles	98.9	96.8	100	0	97.4	58.3	100	100	0	91.7	100	92.2	78.6	0	91.6	100	100	100	0	100	95.2
Heavy Vehicles	1	4	0	0	5	4	0	0	0	4	0	5	2	0	7	0	0	0	0	0	16
% Heavy Vehicles	1.1	1.1	0	0	1.0	33.3	0	0	0	6.7	0	2.0	14.3	0	2.7	0	0	0	0	0	1.9
School buses	0	8	0	0	8	1	0	0	0	1	0	14	1	0	15	0	0	0	0	0	24
% School buses	0	2.2	0	0	1.6	8.3	0	0	0	1.7	0	5.7	7.1	0	5.7	0	0	0	0	0	2.9

MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1414
Collected By: C. Detrick
Other Comments:

File Name : MJ1820_Sand Creek_Computer Drive_AM
Site Code : 10700101
Start Date : 3/7/2023
Page No : 3



MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1417
Collected By: N. Gibson
Other Comments:

File Name : MJ1820_Sand Creek_Hunting_PM
Site Code : 18200103
Start Date : 3/7/2023
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

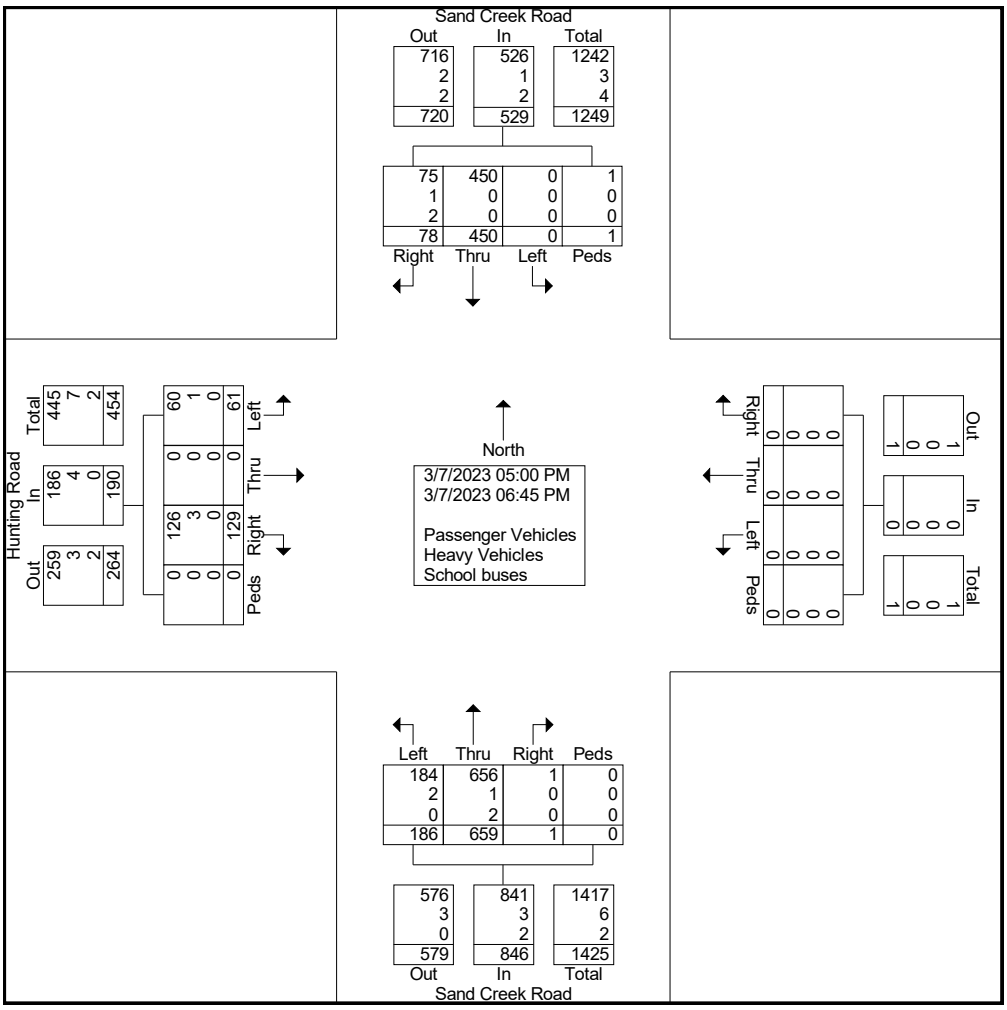
	Sand Creek Road Southbound					Westbound					Sand Creek Road Northbound					Hunting Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
05:00 PM	0	83	11	1	95	0	0	0	0	0	31	101	0	0	132	10	0	21	0	31	258
05:15 PM	0	67	10	0	77	0	0	0	0	0	35	117	1	0	153	7	0	15	0	22	252
05:30 PM	0	60	20	0	80	0	0	0	0	0	29	88	0	0	117	7	0	22	0	29	226
05:45 PM	0	68	10	0	78	0	0	0	0	0	28	73	0	0	101	10	0	16	0	26	205
Total	0	278	51	1	330	0	0	0	0	0	123	379	1	0	503	34	0	74	0	108	941
06:00 PM	0	56	6	0	62	0	0	0	0	0	23	79	0	0	102	7	0	16	0	23	187
06:15 PM	0	43	6	0	49	0	0	0	0	0	14	89	0	0	103	8	0	15	0	23	175
06:30 PM	0	38	6	0	44	0	0	0	0	0	19	53	0	0	72	6	0	13	0	19	135
06:45 PM	0	35	9	0	44	0	0	0	0	0	7	59	0	0	66	6	0	11	0	17	127
Total	0	172	27	0	199	0	0	0	0	0	63	280	0	0	343	27	0	55	0	82	624
Grand Total	0	450	78	1	529	0	0	0	0	0	186	659	1	0	846	61	0	129	0	190	1565
Apprch %	0	85.1	14.7	0.2		0	0	0	0		22	77.9	0.1	0		32.1	0	67.9	0		
Total %	0	28.8	5	0.1	33.8	0	0	0	0	0	11.9	42.1	0.1	0	54.1	3.9	0	8.2	0	12.1	
Passenger Vehicles	0	450	75	1	526	0	0	0	0	0	184	656	1	0	841	60	0	126	0	186	1553
% Passenger Vehicles	0	100	96.2	100	99.4	0	0	0	0	0	98.9	99.5	100	0	99.4	98.4	0	97.7	0	97.9	99.2
Heavy Vehicles	0	0	1	0	1	0	0	0	0	0	2	1	0	0	3	1	0	3	0	4	8
% Heavy Vehicles	0	0	1.3	0	0.2	0	0	0	0	0	1.1	0.2	0	0	0.4	1.6	0	2.3	0	2.1	0.5
School buses	0	0	2	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
% School buses	0	0	2.6	0	0.4	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0.3

MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1417
Collected By: N. Gibson
Other Comments:

File Name : MJ1820_Sand Creek_Hunting_PM
Site Code : 18200103
Start Date : 3/7/2023
Page No : 2



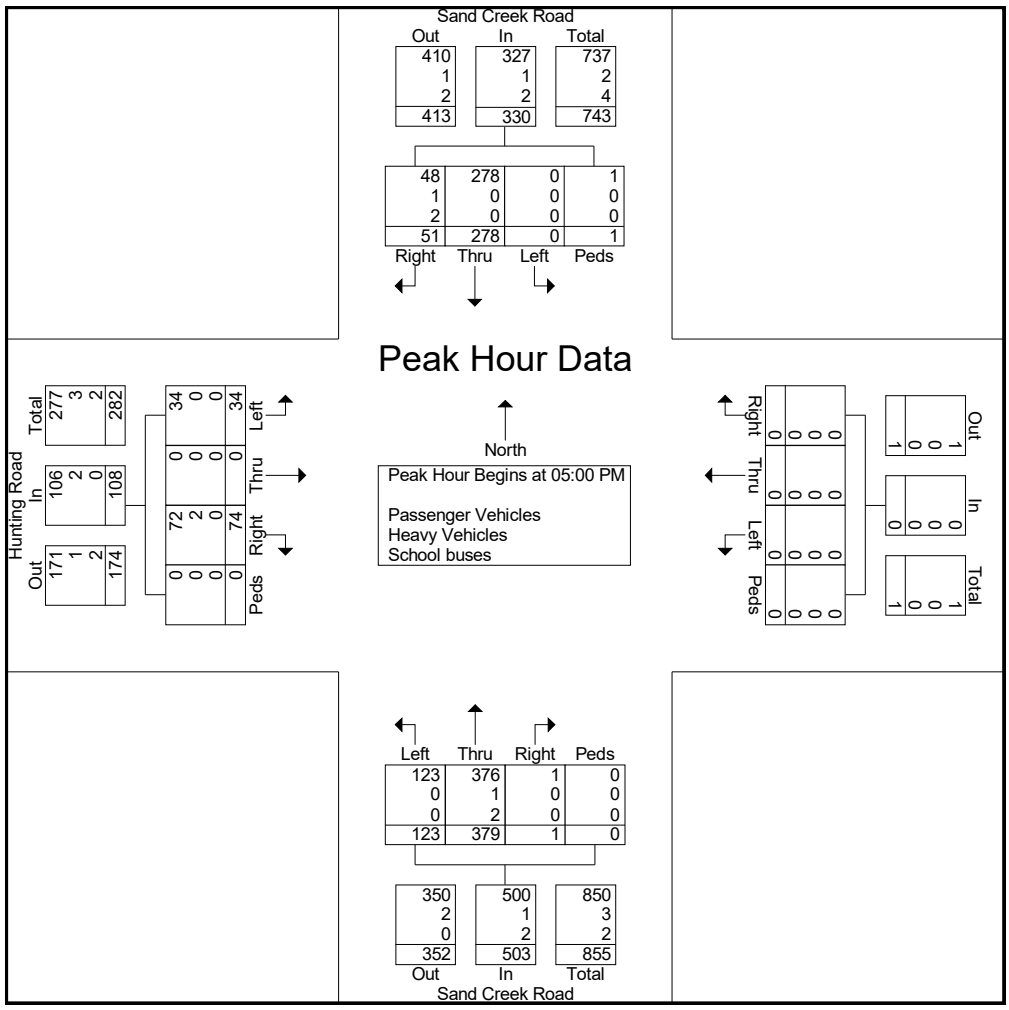
	Sand Creek Road Southbound					Westbound					Sand Creek Road Northbound					Hunting Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 5:00:00 PM to 6:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 5:00:00 PM																					
5:00:00 PM	0	83	11	1	95	0	0	0	0	0	31	101	0	0	132	10	0	21	0	31	258
5:15:00 PM	0	67	10	0	77	0	0	0	0	0	35	117	1	0	153	7	0	15	0	22	252
5:30:00 PM	0	60	20	0	80	0	0	0	0	0	29	88	0	0	117	7	0	22	0	29	226
5:45:00 PM	0	68	10	0	78	0	0	0	0	0	28	73	0	0	101	10	0	16	0	26	205
Total Volume	0	278	51	1	330	0	0	0	0	0	123	379	1	0	503	34	0	74	0	108	941
% App. Total	0	84.2	15.5	0.3		0	0	0	0		24.5	75.3	0.2	0		31.5	0	68.5	0		
PHF	.000	.837	.638	.250	.868	.000	.000	.000	.000	.000	.879	.810	.250	.000	.822	.850	.000	.841	.000	.871	.912
Passenger Vehicles	0	278	48	1	327	0	0	0	0	0	123	376	1	0	500	34	0	72	0	106	933
% Passenger Vehicles	0	100	94.1	100	99.1	0	0	0	0	0	100	99.2	100	0	99.4	100	0	97.3	0	98.1	99.1
Heavy Vehicles	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	4
% Heavy Vehicles	0	0	2.0	0	0.3	0	0	0	0	0	0	0.3	0	0	0.2	0	0	2.7	0	1.9	0.4
School buses	0	0	2	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
% School buses	0	0	3.9	0	0.6	0	0	0	0	0	0	0.5	0	0	0.4	0	0	0	0	0	0.4

MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1417
Collected By: N. Gibson
Other Comments:

File Name : MJ1820_Sand Creek_Hunting_PM
Site Code : 18200103
Start Date : 3/7/2023
Page No : 3



MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1414
Collected By: C. Detrick
Other Comments:

File Name : MJ1820_Sand Creek_Computer Drive_PM
Site Code : 18200103
Start Date : 3/7/2023
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

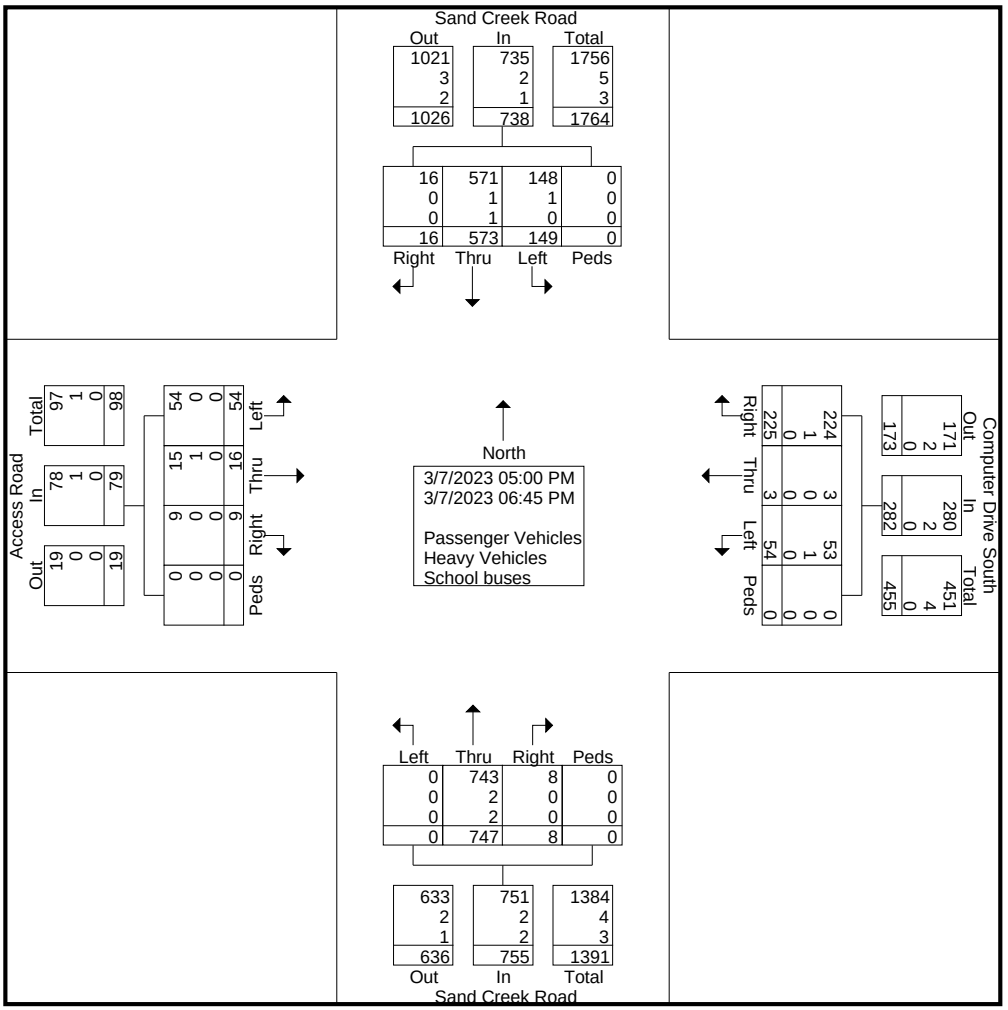
	Sand Creek Road Southbound					Computer Drive South Westbound					Sand Creek Road Northbound					Access Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
05:00 PM	26	91	2	0	119	8	2	41	0	51	0	116	2	0	118	14	7	2	0	23	311
05:15 PM	26	96	0	0	122	12	0	38	0	50	0	115	1	0	116	9	2	1	0	12	300
05:30 PM	34	77	0	0	111	13	0	29	0	42	0	108	0	0	108	12	2	0	0	14	275
05:45 PM	13	85	2	0	100	4	1	18	0	23	0	106	1	0	107	10	1	1	0	12	242
Total	99	349	4	0	452	37	3	126	0	166	0	445	4	0	449	45	12	4	0	61	1128
06:00 PM	21	71	1	0	93	7	0	23	0	30	0	78	0	0	78	1	1	2	0	4	205
06:15 PM	6	56	7	0	69	5	0	39	0	44	0	86	1	0	87	4	1	1	0	6	206
06:30 PM	12	52	4	0	68	3	0	24	0	27	0	78	2	0	80	3	0	2	0	5	180
06:45 PM	11	45	0	0	56	2	0	13	0	15	0	60	1	0	61	1	2	0	0	3	135
Total	50	224	12	0	286	17	0	99	0	116	0	302	4	0	306	9	4	5	0	18	726
Grand Total	149	573	16	0	738	54	3	225	0	282	0	747	8	0	755	54	16	9	0	79	1854
Apprch %	20.2	77.6	2.2	0		19.1	1.1	79.8	0		0	98.9	1.1	0		68.4	20.3	11.4	0		
Total %	8	30.9	0.9	0	39.8	2.9	0.2	12.1	0	15.2	0	40.3	0.4	0	40.7	2.9	0.9	0.5	0	4.3	
Passenger Vehicles	148	571	16	0	735	53	3	224	0	280	0	743	8	0	751	54	15	9	0	78	1844
% Passenger Vehicles	99.3	99.7	100	0	99.6	98.1	100	99.6	0	99.3	0	99.5	100	0	99.5	100	93.8	100	0	98.7	99.5
Heavy Vehicles	1	1	0	0	2	1	0	1	0	2	0	2	0	0	2	0	1	0	0	1	7
% Heavy Vehicles	0.7	0.2	0	0	0.3	1.9	0	0.4	0	0.7	0	0.3	0	0	0.3	0	6.2	0	0	1.3	0.4
School buses	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
% School buses	0	0.2	0	0	0.1	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0.2

MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1414
Collected By: C. Detrick
Other Comments:

File Name : MJ1820_Sand Creek_Computer Drive_PM
Site Code : 18200103
Start Date : 3/7/2023
Page No : 2



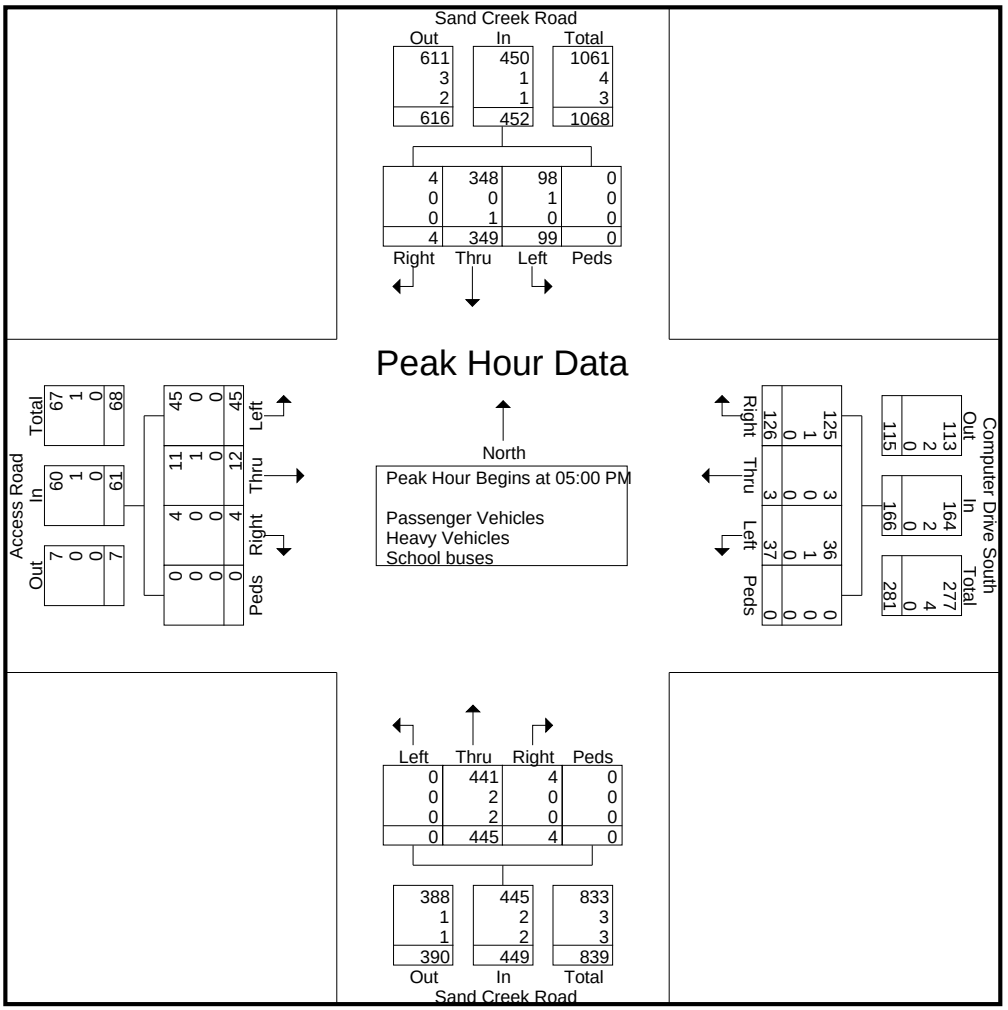
	Sand Creek Road Southbound					Computer Drive South Westbound					Sand Creek Road Northbound					Access Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 5:00:00 PM to 6:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 5:00:00 PM																					
5:00:00 PM	26	91	2	0	119	8	2	41	0	51	0	116	2	0	118	14	7	2	0	23	311
5:15:00 PM	26	96	0	0	122	12	0	38	0	50	0	115	1	0	116	9	2	1	0	12	300
5:30:00 PM	34	77	0	0	111	13	0	29	0	42	0	108	0	0	108	12	2	0	0	14	275
5:45:00 PM	13	85	2	0	100	4	1	18	0	23	0	106	1	0	107	10	1	1	0	12	242
Total Volume	99	349	4	0	452	37	3	126	0	166	0	445	4	0	449	45	12	4	0	61	1128
% App. Total	21.9	77.2	0.9	0		22.3	1.8	75.9	0		0	99.1	0.9	0		73.8	19.7	6.6	0		
PHF	.728	.909	.500	.000	.926	.712	.375	.768	.000	.814	.000	.959	.500	.000	.951	.804	.429	.500	.000	.663	.907
Passenger Vehicles	98	348	4	0	450	36	3	125	0	164	0	441	4	0	445	45	11	4	0	60	1119
% Passenger Vehicles	99.0	99.7	100	0	99.6	97.3	100	99.2	0	98.8	0	99.1	100	0	99.1	100	91.7	100	0	98.4	99.2
Heavy Vehicles	1	0	0	0	1	1	0	1	0	2	0	2	0	0	2	0	1	0	0	1	6
% Heavy Vehicles	1.0	0	0	0	0.2	2.7	0	0.8	0	1.2	0	0.4	0	0	0.4	0	8.3	0	0	1.6	0.5
School buses	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
% School buses	0	0.3	0	0	0.2	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0.3

MJ Engineering and Land Surveying, PC

1533 Crescent Road
Clifton Park, NY 12065

Weather: Cloudy
Serial Number: TU-1414
Collected By: C. Detrick
Other Comments:

File Name : MJ1820_Sand Creek_Computer Drive_PM
Site Code : 18200103
Start Date : 3/7/2023
Page No : 3



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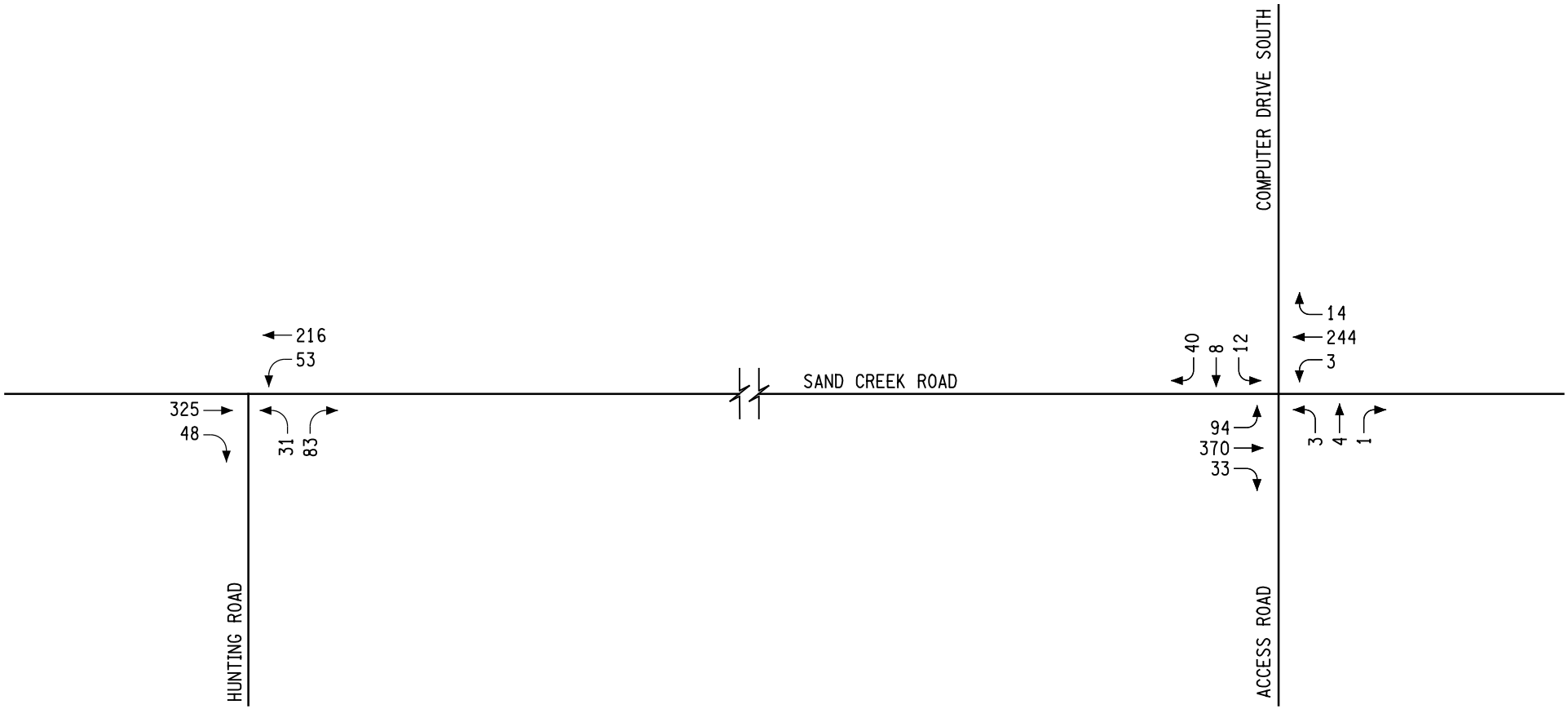

PEAK - 8:00 AM TO 9:00 AM

EXISTING VOLUMES (2023) - AM PEAK

MJ1820 - DATA COLLECTION PLAN SAND CREEK ROAD COMPLETE STREETS STUDY	FIGURE NO.	SCALE	DATE	Engineering and Land Surveying, P.C. 1533 Crescent Road - Clifton Park, NY 12065
	1	NONE	MAY 2023	

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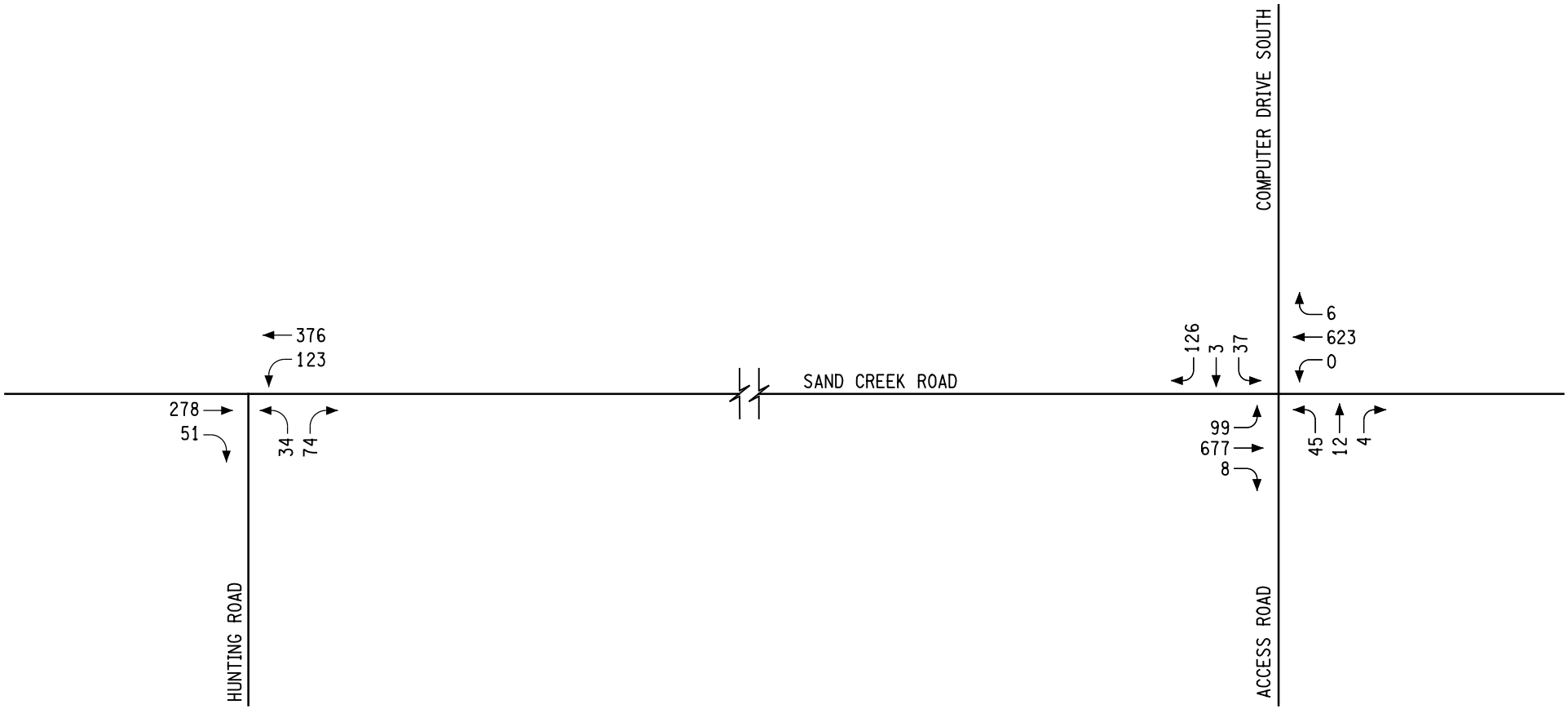

PEAK - 5:00 PM TO 6:00 PM

EXISTING VOLUMES (2023) - PM PEAK

MJ1820 - DATA COLLECTION PLAN
SAND CREEK ROAD COMPLETE STREETS STUDY

FIGURE NO.	SCALE	DATE
2	NONE	MAY 2023

Engineering and Land Surveying, P.C.
1533 Crescent Road - Clifton Park, NY 12065

M.J. Engineering and
Land Surveying, P.C.
1533 Crescent Road, Clifton Park, NY 12065
Phone: 518.371.0799 / Fax: 518.371.0822
www.mjels.com

24-Hour Volume Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run

Start Date: 2/13/2023
End Date: 2/17/2023

2/13/2023	2/13/2023		2/14/2023		2/15/2023		2/16/2023		2/17/2023		Weekday Average		2/18/2023		2/19/2023	
Time	North, Lane 1	South, Lane 1	North, Lane 1	South, Lane 1	North, Lane 1	South, Lane 1	North, Lane 1	South, Lane 1	North, Lane 1	South, Lane 1	North, Lane 1	South, Lane 1	North, Lane 1	South, Lane 1	North, Lane 1	South, Lane 1
12:00 AM	*	*	22	39	23	19	20	36	17	52	20	36	*	*	*	*
1:00	*	*	11	6	17	10	8	12	14	13	12	10	*	*	*	*
2:00	*	*	8	4	7	5	7	3	10	10	8	6	*	*	*	*
3:00	*	*	5	2	6	2	8	0	8	6	7	2	*	*	*	*
4:00	*	*	6	6	8	2	8	6	9	10	8	6	*	*	*	*
5:00	*	*	13	15	6	10	10	14	6	10	9	12	*	*	*	*
6:00	*	*	26	33	26	24	24	24	27	27	26	27	*	*	*	*
7:00	*	*	72	122	82	104	69	120	65	100	72	112	*	*	*	*
8:00	*	*	354	372	357	389	359	391	298	352	342	376	*	*	*	*
9:00	*	*	268	398	240	371	248	345	244	339	250	363	*	*	*	*
10:00	*	*	193	260	198	244	195	272	185	223	193	250	*	*	*	*
11:00	*	*	199	269	189	223	218	208	147	171	188	218	*	*	*	*
12:00 PM	*	*	249	295	236	270	238	273	*	*	241	279	*	*	*	*
1:00	*	*	361	350	285	310	279	320	*	*	308	327	*	*	*	*
2:00	*	*	342	311	298	286	319	254	*	*	320	284	*	*	*	*
3:00	*	*	372	272	353	286	336	296	*	*	354	285	*	*	*	*
4:00	169	156	436	378	392	384	403	363	*	*	350	320	*	*	*	*
5:00	472	387	462	459	496	404	484	388	*	*	478	410	*	*	*	*
6:00	474	380	519	382	464	366	478	395	*	*	484	381	*	*	*	*
7:00	280	237	317	258	326	224	324	246	*	*	312	241	*	*	*	*
8:00	185	125	283	169	223	160	265	199	*	*	239	163	*	*	*	*
9:00	165	99	208	116	167	148	193	124	*	*	183	122	*	*	*	*
10:00	102	51	100	89	93	63	111	67	*	*	102	68	*	*	*	*
11:00	44	37	54	51	46	38	39	40	*	*	46	42	*	*	*	*
Total	1891	1472	4880	4656	4538	4342	4643	4396	1030	1313	4552	4340	0	0	0	0
Day	3363		9536		8880		9039		2343		8892		0		0	
AM Peak			8:00	9:00	8:00	8:00	8:00	8:00	8:00	8:00	8:00	8:00				
Volume			354	398	357	389	359	391	298	352	342	376				
PM Peak	6:00	5:00	6:00	5:00	5:00	5:00	5:00	6:00			6:00	5:00				
Volume	474	387	519	459	496	404	484	395			484	410				
Comb Total	3363		9536		8880		9039		2343		8892		0		0	
ADT	ADT: 8,890		AADT: 8,890													

M.J. Engineering and
Land Surveying, P.C.
1533 Crescent Road, Clifton Park, NY 12065
Phone: 518.371.0799 / Fax: 518.371.0822
www.mjels.com

Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/13/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	1	127	27	1	9	0	0	1	0	0	0	0	0	3	169
5:00	1	373	71	6	18	0	0	0	0	0	0	0	0	3	472
6:00	0	386	70	4	12	0	0	0	0	0	0	0	0	2	474
7:00	0	237	33	1	7	0	0	0	0	0	0	0	0	2	280
8:00	0	143	31	0	10	0	0	0	0	0	0	0	0	1	185
9:00	0	140	21	0	4	0	0	0	0	0	0	0	0	0	165
10:00	0	88	10	1	3	0	0	0	0	0	0	0	0	0	102
11:00	0	35	7	0	2	0	0	0	0	0	0	0	0	0	44
Total	2	1529	270	13	65	0	0	1	0	0	0	0	0	11	1891
Percent	0.1%	80.9%	14.3%	0.7%	3.4%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	
AM Peak	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PM Peak	4:00	6:00	5:00	5:00	5:00			4:00						4:00	6:00
	1	386	71	6	18	*	*	1	*	*	*	*	*	3	474

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/14/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	16	6	0	0	0	0	0	0	0	0	0	0	0	22
1:00	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
2:00	0	5	2	0	1	0	0	0	0	0	0	0	0	0	8
3:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
4:00	0	5	0	0	1	0	0	0	0	0	0	0	0	0	6
5:00	0	8	5	0	0	0	0	0	0	0	0	0	0	0	13
6:00	0	18	5	0	2	0	0	0	0	0	0	0	0	1	26
7:00	0	48	11	5	7	1	0	0	0	0	0	0	0	0	72
8:00	2	253	61	12	22	1	0	0	0	1	0	0	0	2	354
9:00	0	212	38	5	13	0	0	0	0	0	0	0	0	0	268
10:00	0	142	33	2	16	0	0	0	0	0	0	0	0	0	193
11:00	0	150	37	3	8	0	0	0	0	0	0	0	0	1	199
12:00 PM	0	193	43	3	8	0	0	0	0	0	0	0	0	2	249
1:00	0	285	55	0	19	0	0	0	0	0	0	0	0	2	361
2:00	0	271	44	3	23	1	0	0	0	0	0	0	0	0	342
3:00	3	280	52	13	18	0	0	0	0	0	0	0	0	6	372
4:00	1	345	60	6	15	0	0	0	0	0	0	0	0	9	436
5:00	0	368	63	5	19	0	0	1	0	0	0	0	0	6	462
6:00	1	432	59	2	16	1	0	1	1	0	0	0	0	6	519
7:00	1	269	40	0	7	0	0	0	0	0	0	0	0	0	317
8:00	0	221	51	1	6	0	0	1	0	0	0	0	0	3	283
9:00	0	172	29	1	6	0	0	0	0	0	0	0	0	0	208
10:00	0	89	9	0	2	0	0	0	0	0	0	0	0	0	100
11:00	0	44	9	0	1	0	0	0	0	0	0	0	0	0	54
Total	8	3840	714	61	210	4	0	3	1	1	0	0	0	38	4880
Percent	0.2%	78.7%	14.6%	1.3%	4.3%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	
AM Peak	8:00	8:00	8:00	8:00	8:00	7:00				8:00				8:00	8:00
	2	253	61	12	22	1	*	*	*	1	*	*	*	2	354
PM Peak	3:00	6:00	5:00	3:00	2:00	2:00		5:00	6:00					4:00	6:00
	3	432	63	13	23	1	*	1	1	*	*	*	*	9	519

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/15/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	19	3	0	1	0	0	0	0	0	0	0	0	0	23
1:00	0	15	2	0	0	0	0	0	0	0	0	0	0	0	17
2:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
3:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
4:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
5:00	1	4	1	0	0	0	0	0	0	0	0	0	0	0	6
6:00	0	20	5	0	1	0	0	0	0	0	0	0	0	0	26
7:00	0	52	17	6	6	1	0	0	0	0	0	0	0	0	82
8:00	0	263	59	12	18	0	0	0	0	0	0	0	0	5	357
9:00	0	181	41	4	11	0	0	0	0	0	0	0	0	3	240
10:00	0	141	35	2	18	0	0	0	0	0	0	0	0	2	198
11:00	0	135	38	4	9	0	0	1	0	0	0	0	0	2	189
12:00 PM	0	176	41	2	17	0	0	0	0	0	0	0	0	0	236
1:00	1	234	38	0	10	0	0	0	0	0	0	0	0	2	285
2:00	0	240	46	3	9	0	0	0	0	0	0	0	0	0	298
3:00	2	242	68	13	23	1	0	0	0	0	0	0	0	4	353
4:00	2	303	58	6	19	0	0	0	0	0	0	0	0	4	392
5:00	2	404	61	6	17	0	0	2	0	0	0	0	0	4	496
6:00	3	369	71	2	13	0	0	1	0	0	0	0	0	5	464
7:00	1	266	46	0	11	0	0	0	0	0	0	0	0	2	326
8:00	0	176	37	0	7	0	0	1	0	0	0	0	0	2	223
9:00	0	133	27	0	7	0	0	0	0	0	0	0	0	0	167
10:00	0	79	10	0	3	0	0	1	0	0	0	0	0	0	93
11:00	0	38	7	0	1	0	0	0	0	0	0	0	0	0	46
Total	12	3508	714	60	201	2	0	6	0	0	0	0	0	35	4538
Percent	0.3%	77.3%	15.7%	1.3%	4.4%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	
AM Peak	5:00	8:00	8:00	8:00	8:00	7:00		11:00						8:00	8:00
	1	263	59	12	18	1	*	1	*	*	*	*	*	5	357
PM Peak	6:00	5:00	6:00	3:00	3:00	3:00		5:00						6:00	5:00
	3	404	71	13	23	1	*	2	*	*	*	*	*	5	496

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/16/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	17	3	0	0	0	0	0	0	0	0	0	0	0	20
1:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
2:00	0	4	3	0	0	0	0	0	0	0	0	0	0	0	7
3:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
4:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
5:00	0	5	4	0	1	0	0	0	0	0	0	0	0	0	10
6:00	0	21	1	0	2	0	0	0	0	0	0	0	0	0	24
7:00	1	45	10	5	8	0	0	0	0	0	0	0	0	0	69
8:00	0	264	51	12	24	1	0	3	0	0	0	0	0	4	359
9:00	0	191	42	3	11	0	0	1	0	0	0	0	0	0	248
10:00	1	154	24	0	14	0	0	0	0	0	0	0	0	2	195
11:00	0	159	40	2	16	1	0	0	0	0	0	0	0	0	218
12:00 PM	1	180	40	3	11	0	0	2	0	0	0	0	0	1	238
1:00	1	210	47	4	16	0	0	1	0	0	0	0	0	0	279
2:00	1	243	53	4	18	0	0	0	0	0	0	0	0	0	319
3:00	0	251	57	13	12	1	0	0	0	0	0	0	0	2	336
4:00	1	301	69	7	18	0	0	1	0	0	0	0	0	6	403
5:00	2	381	70	7	20	0	0	1	0	0	0	0	0	3	484
6:00	0	380	73	3	16	0	0	0	0	0	0	0	0	6	478
7:00	0	263	48	1	11	0	0	0	0	0	0	0	0	1	324
8:00	0	212	47	0	6	0	0	0	0	0	0	0	0	0	265
9:00	0	148	36	0	7	0	0	0	0	0	0	0	0	2	193
10:00	0	87	22	0	2	0	0	0	0	0	0	0	0	0	111
11:00	0	33	4	0	2	0	0	0	0	0	0	0	0	0	39
Total	8	3569	748	64	215	3	0	9	0	0	0	0	0	27	4643
Percent	0.2%	76.9%	16.1%	1.4%	4.6%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	
AM Peak	7:00	8:00	8:00	8:00	8:00	8:00		8:00						8:00	8:00
	1	264	51	12	24	1	*	3	*	*	*	*	*	4	359
PM Peak	5:00	5:00	6:00	3:00	5:00	3:00		12:00 PM						4:00	5:00
	2	381	73	13	20	1	*	2	*	*	*	*	*	6	484

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/17/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	13	2	0	2	0	0	0	0	0	0	0	0	0	17
1:00	0	13	0	0	1	0	0	0	0	0	0	0	0	0	14
2:00	1	7	2	0	0	0	0	0	0	0	0	0	0	0	10
3:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
4:00	1	7	1	0	0	0	0	0	0	0	0	0	0	0	9
5:00	0	2	3	0	1	0	0	0	0	0	0	0	0	0	6
6:00	0	20	5	0	2	0	0	0	0	0	0	0	0	0	27
7:00	0	46	11	4	4	0	0	0	0	0	0	0	0	0	65
8:00	1	220	44	13	20	0	0	0	0	0	0	0	0	0	298
9:00	0	183	38	7	16	0	0	0	0	0	0	0	0	0	244
10:00	0	130	40	1	12	1	0	1	0	0	0	0	0	0	185
11:00	1	107	28	2	9	0	0	0	0	0	0	0	0	0	147
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
Total	4	754	176	27	67	1	0	1	0	0	0	0	0	0	1030
Percent	0.4%	73.2%	17.1%	2.6%	6.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	2:00	8:00	8:00	8:00	8:00	10:00		10:00							8:00
	1	220	44	13	20	1	*	1	*	*	*	*	*	*	298
PM Peak	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Grand Total	34	13200	2622	225	758	10	0	20	1	1	0	0	0	111	16982
Percent	0.2%	77.7%	15.4%	1.3%	4.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/13/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	1	121	22	5	5	0	0	0	0	0	0	0	0	2	156
5:00	0	296	64	8	17	0	0	1	0	0	0	0	0	1	387
6:00	0	299	58	0	19	0	0	0	0	0	0	0	0	4	380
7:00	0	190	31	1	14	1	0	0	0	0	0	0	0	0	237
8:00	0	99	17	0	9	0	0	0	0	0	0	0	0	0	125
9:00	0	82	11	0	6	0	0	0	0	0	0	0	0	0	99
10:00	0	41	5	0	5	0	0	0	0	0	0	0	0	0	51
11:00	0	27	8	0	2	0	0	0	0	0	0	0	0	0	37
Total	1	1155	216	14	77	1	0	1	0	0	0	0	0	7	1472
Percent	0.1%	78.5%	14.7%	1.0%	5.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	
AM Peak	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PM Peak	4:00	6:00	5:00	5:00	6:00	7:00		5:00						6:00	5:00
	1	299	64	8	19	1	*	1	*	*	*	*	*	4	387

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/14/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	39	0	0	0	0	0	0	0	0	0	0	0	0	39
1:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
2:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
3:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
4:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
5:00	0	11	4	0	0	0	0	0	0	0	0	0	0	0	15
6:00	0	25	5	0	3	0	0	0	0	0	0	0	0	0	33
7:00	0	88	24	2	7	1	0	0	0	0	0	0	0	0	122
8:00	0	279	56	11	22	1	0	0	0	1	0	0	0	2	372
9:00	1	302	66	6	18	1	0	1	0	0	0	0	0	3	398
10:00	0	207	36	2	15	0	0	0	0	0	0	0	0	0	260
11:00	0	202	49	1	14	0	0	0	0	0	0	0	0	3	269
12:00 PM	0	229	46	4	12	0	0	0	0	0	0	0	0	4	295
1:00	0	257	64	2	24	0	0	0	0	0	0	0	0	3	350
2:00	1	244	36	3	21	0	0	2	0	0	0	0	0	4	311
3:00	0	215	36	6	12	1	0	1	0	0	0	0	0	1	272
4:00	0	272	65	7	26	0	0	3	0	0	0	0	0	5	378
5:00	4	357	62	7	21	0	0	0	0	0	0	0	0	8	459
6:00	1	301	53	4	16	0	0	0	0	0	0	0	0	7	382
7:00	0	203	39	0	12	0	0	0	0	0	0	0	0	4	258
8:00	1	129	31	1	5	0	0	0	0	0	0	0	0	2	169
9:00	0	92	12	0	12	0	0	0	0	0	0	0	0	0	116
10:00	0	76	13	0	0	0	0	0	0	0	0	0	0	0	89
11:00	0	47	4	0	0	0	0	0	0	0	0	0	0	0	51
Total	8	3590	703	56	241	4	0	7	0	1	0	0	0	46	4656
Percent	0.2%	77.1%	15.1%	1.2%	5.2%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	
AM Peak	9:00	9:00	9:00	8:00	8:00	7:00		9:00		8:00				9:00	9:00
	1	302	66	11	22	1	*	1	*	1	*	*	*	3	398
PM Peak	5:00	5:00	4:00	4:00	4:00	3:00		4:00						5:00	5:00
	4	357	65	7	26	1	*	3	*	*	*	*	*	8	459

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/15/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	16	2	0	1	0	0	0	0	0	0	0	0	0	19
1:00	0	8	1	0	1	0	0	0	0	0	0	0	0	0	10
2:00	0	4	0	0	1	0	0	0	0	0	0	0	0	0	5
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00	0	8	1	0	1	0	0	0	0	0	0	0	0	0	10
6:00	1	19	4	0	0	0	0	0	0	0	0	0	0	0	24
7:00	1	70	23	2	8	0	0	0	0	0	0	0	0	0	104
8:00	0	299	51	9	21	1	0	1	0	0	0	0	0	7	389
9:00	2	284	57	6	18	0	0	0	0	0	0	0	0	4	371
10:00	0	186	45	2	11	0	0	0	0	0	0	0	0	0	244
11:00	0	170	36	2	14	0	0	0	0	0	0	0	0	1	223
12:00 PM	0	195	51	5	19	0	0	0	0	0	0	0	0	0	270
1:00	1	233	48	2	23	0	0	1	0	0	0	0	0	2	310
2:00	1	216	47	3	19	0	0	0	0	0	0	0	0	0	286
3:00	0	211	49	4	20	0	0	1	0	0	0	0	0	1	286
4:00	1	288	60	12	21	0	0	0	0	0	0	0	0	2	384
5:00	2	319	53	6	14	0	0	1	0	0	0	0	0	9	404
6:00	0	300	47	1	13	0	0	0	0	0	0	0	0	5	366
7:00	3	175	38	1	6	0	0	0	0	0	0	0	0	1	224
8:00	0	130	25	1	4	0	0	0	0	0	0	0	0	0	160
9:00	0	119	20	0	9	0	0	0	0	0	0	0	0	0	148
10:00	0	55	7	0	1	0	0	0	0	0	0	0	0	0	63
11:00	0	30	7	0	1	0	0	0	0	0	0	0	0	0	38
Total	12	3339	672	56	226	1	0	4	0	0	0	0	0	32	4342
Percent	0.3%	76.9%	15.5%	1.3%	5.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	
AM Peak	9:00	8:00	9:00	8:00	8:00	8:00		8:00						8:00	8:00
	2	299	57	9	21	1	*	1	*	*	*	*	*	7	389
PM Peak	7:00	5:00	4:00	4:00	1:00			1:00						5:00	5:00
	3	319	60	12	23	*	*	1	*	*	*	*	*	9	404

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/16/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	32	3	0	1	0	0	0	0	0	0	0	0	0	36
1:00	0	9	3	0	0	0	0	0	0	0	0	0	0	0	12
2:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	6
5:00	0	11	3	0	0	0	0	0	0	0	0	0	0	0	14
6:00	0	18	4	0	1	1	0	0	0	0	0	0	0	0	24
7:00	0	83	23	2	10	1	0	1	0	0	0	0	0	0	120
8:00	2	291	57	9	24	0	0	1	0	0	0	0	0	7	391
9:00	0	271	53	4	14	0	0	1	0	0	0	0	0	2	345
10:00	0	217	38	2	14	0	0	0	0	0	0	0	0	1	272
11:00	1	158	34	1	13	0	0	0	0	0	0	0	0	1	208
12:00 PM	1	199	43	3	24	1	0	0	0	0	0	0	0	2	273
1:00	2	248	50	1	15	0	0	1	0	0	0	0	0	3	320
2:00	1	205	31	1	14	0	0	1	0	0	0	0	0	1	254
3:00	0	222	50	5	16	0	0	0	0	0	0	0	0	3	296
4:00	2	271	53	10	19	1	0	0	0	0	0	0	0	7	363
5:00	0	294	61	4	24	0	0	0	0	0	0	0	0	5	388
6:00	1	297	67	0	22	0	0	1	0	0	0	0	0	7	395
7:00	0	175	57	0	14	0	0	0	0	0	0	0	0	0	246
8:00	1	156	37	0	4	0	0	0	0	0	0	0	0	1	199
9:00	0	96	19	0	9	0	0	0	0	0	0	0	0	0	124
10:00	0	56	9	0	2	0	0	0	0	0	0	0	0	0	67
11:00	0	31	7	0	2	0	0	0	0	0	0	0	0	0	40
Total	11	3345	706	42	242	4	0	6	0	0	0	0	0	40	4396
Percent	0.3%	76.1%	16.1%	1.0%	5.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	
AM Peak	8:00	8:00	8:00	8:00	8:00	6:00		7:00						8:00	8:00
	2	291	57	9	24	1	*	1	*	*	*	*	*	7	391
PM Peak	1:00	6:00	6:00	4:00	12:00 PM	12:00 PM		1:00						4:00	6:00
	2	297	67	10	24	1	*	1	*	*	*	*	*	7	395

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/17/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	40	9	0	2	1	0	0	0	0	0	0	0	0	52
1:00	0	12	1	0	0	0	0	0	0	0	0	0	0	0	13
2:00	0	8	1	0	1	0	0	0	0	0	0	0	0	0	10
3:00	0	1	3	0	2	0	0	0	0	0	0	0	0	0	6
4:00	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
5:00	0	7	2	0	1	0	0	0	0	0	0	0	0	0	10
6:00	0	22	2	0	3	0	0	0	0	0	0	0	0	0	27
7:00	0	70	20	2	7	1	0	0	0	0	0	0	0	0	100
8:00	1	270	47	9	21	0	0	0	0	0	0	0	0	4	352
9:00	0	258	52	4	23	0	0	0	0	0	0	0	0	2	339
10:00	0	166	33	4	18	0	0	1	0	0	0	0	0	1	223
11:00	0	115	39	1	15	0	0	0	0	0	0	0	0	1	171
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
Total	1	979	209	20	93	2	0	1	0	0	0	0	0	8	1313
Percent	0.1%	74.6%	15.9%	1.5%	7.1%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	
AM Peak	8:00	8:00	9:00	8:00	9:00	12:00 AM		10:00						8:00	8:00
	1	270	52	9	23	1	*	1	*	*	*	*	*	4	352
PM Peak	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Grand Total	33	12408	2506	188	879	12	0	19	0	1	0	0	0	133	16179
Percent	0.2%	76.7%	15.5%	1.2%	5.4%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/13/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	2	248	49	6	14	0	0	1	0	0	0	0	0	5	325
5:00	1	669	135	14	35	0	0	1	0	0	0	0	0	4	859
6:00	0	685	128	4	31	0	0	0	0	0	0	0	0	6	854
7:00	0	427	64	2	21	1	0	0	0	0	0	0	0	2	517
8:00	0	242	48	0	19	0	0	0	0	0	0	0	0	1	310
9:00	0	222	32	0	10	0	0	0	0	0	0	0	0	0	264
10:00	0	129	15	1	8	0	0	0	0	0	0	0	0	0	153
11:00	0	62	15	0	4	0	0	0	0	0	0	0	0	0	81
Total	3	2684	486	27	142	1	0	2	0	0	0	0	0	18	3363
Percent	0.1%	79.8%	14.5%	0.8%	4.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	
AM Peak	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PM Peak	4:00	6:00	5:00	5:00	5:00	7:00		4:00						6:00	5:00
	2	685	135	14	35	1	*	1	*	*	*	*	*	6	859

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/14/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	55	6	0	0	0	0	0	0	0	0	0	0	0	61
1:00	0	17	0	0	0	0	0	0	0	0	0	0	0	0	17
2:00	0	7	3	0	2	0	0	0	0	0	0	0	0	0	12
3:00	0	4	3	0	0	0	0	0	0	0	0	0	0	0	7
4:00	0	11	0	0	1	0	0	0	0	0	0	0	0	0	12
5:00	0	19	9	0	0	0	0	0	0	0	0	0	0	0	28
6:00	0	43	10	0	5	0	0	0	0	0	0	0	0	1	59
7:00	0	136	35	7	14	2	0	0	0	0	0	0	0	0	194
8:00	2	532	117	23	44	2	0	0	0	2	0	0	0	4	726
9:00	1	514	104	11	31	1	0	1	0	0	0	0	0	3	666
10:00	0	349	69	4	31	0	0	0	0	0	0	0	0	0	453
11:00	0	352	86	4	22	0	0	0	0	0	0	0	0	4	468
12:00 PM	0	422	89	7	20	0	0	0	0	0	0	0	0	6	544
1:00	0	542	119	2	43	0	0	0	0	0	0	0	0	5	711
2:00	1	515	80	6	44	1	0	2	0	0	0	0	0	4	653
3:00	3	495	88	19	30	1	0	1	0	0	0	0	0	7	644
4:00	1	617	125	13	41	0	0	3	0	0	0	0	0	14	814
5:00	4	725	125	12	40	0	0	1	0	0	0	0	0	14	921
6:00	2	733	112	6	32	1	0	1	1	0	0	0	0	13	901
7:00	1	472	79	0	19	0	0	0	0	0	0	0	0	4	575
8:00	1	350	82	2	11	0	0	1	0	0	0	0	0	5	452
9:00	0	264	41	1	18	0	0	0	0	0	0	0	0	0	324
10:00	0	165	22	0	2	0	0	0	0	0	0	0	0	0	189
11:00	0	91	13	0	1	0	0	0	0	0	0	0	0	0	105
Total	16	7430	1417	117	451	8	0	10	1	2	0	0	0	84	9536
Percent	0.2%	77.9%	14.9%	1.2%	4.7%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	
AM Peak	8:00	8:00	8:00	8:00	8:00	7:00		9:00		8:00				8:00	8:00
	2	532	117	23	44	2	*	1	*	2	*	*	*	4	726
PM Peak	5:00	6:00	4:00	3:00	2:00	2:00		4:00	6:00					4:00	5:00
	4	733	125	19	44	1	*	3	1	*	*	*	*	14	921

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/15/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	35	5	0	2	0	0	0	0	0	0	0	0	0	42
1:00	0	23	3	0	1	0	0	0	0	0	0	0	0	0	27
2:00	0	10	1	0	1	0	0	0	0	0	0	0	0	0	12
3:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
4:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
5:00	1	12	2	0	1	0	0	0	0	0	0	0	0	0	16
6:00	1	39	9	0	1	0	0	0	0	0	0	0	0	0	50
7:00	1	122	40	8	14	1	0	0	0	0	0	0	0	0	186
8:00	0	562	110	21	39	1	0	1	0	0	0	0	0	12	746
9:00	2	465	98	10	29	0	0	0	0	0	0	0	0	7	611
10:00	0	327	80	4	29	0	0	0	0	0	0	0	0	2	442
11:00	0	305	74	6	23	0	0	1	0	0	0	0	0	3	412
12:00 PM	0	371	92	7	36	0	0	0	0	0	0	0	0	0	506
1:00	2	467	86	2	33	0	0	1	0	0	0	0	0	4	595
2:00	1	456	93	6	28	0	0	0	0	0	0	0	0	0	584
3:00	2	453	117	17	43	1	0	1	0	0	0	0	0	5	639
4:00	3	591	118	18	40	0	0	0	0	0	0	0	0	6	776
5:00	4	723	114	12	31	0	0	3	0	0	0	0	0	13	900
6:00	3	669	118	3	26	0	0	1	0	0	0	0	0	10	830
7:00	4	441	84	1	17	0	0	0	0	0	0	0	0	3	550
8:00	0	306	62	1	11	0	0	1	0	0	0	0	0	2	383
9:00	0	252	47	0	16	0	0	0	0	0	0	0	0	0	315
10:00	0	134	17	0	4	0	0	1	0	0	0	0	0	0	156
11:00	0	68	14	0	2	0	0	0	0	0	0	0	0	0	84
Total	24	6847	1386	116	427	3	0	10	0	0	0	0	0	67	8880
Percent	0.3%	77.1%	15.6%	1.3%	4.8%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	
AM Peak	9:00	8:00	8:00	8:00	8:00	7:00		8:00						8:00	8:00
	2	562	110	21	39	1	*	1	*	*	*	*	*	12	746
PM Peak	5:00	5:00	4:00	4:00	3:00	3:00		5:00						5:00	5:00
	4	723	118	18	43	1	*	3	*	*	*	*	*	13	900

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/16/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	49	6	0	1	0	0	0	0	0	0	0	0	0	56
1:00	0	16	4	0	0	0	0	0	0	0	0	0	0	0	20
2:00	0	6	4	0	0	0	0	0	0	0	0	0	0	0	10
3:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
4:00	0	9	5	0	0	0	0	0	0	0	0	0	0	0	14
5:00	0	16	7	0	1	0	0	0	0	0	0	0	0	0	24
6:00	0	39	5	0	3	1	0	0	0	0	0	0	0	0	48
7:00	1	128	33	7	18	1	0	1	0	0	0	0	0	0	189
8:00	2	555	108	21	48	1	0	4	0	0	0	0	0	11	750
9:00	0	462	95	7	25	0	0	2	0	0	0	0	0	2	593
10:00	1	371	62	2	28	0	0	0	0	0	0	0	0	3	467
11:00	1	317	74	3	29	1	0	0	0	0	0	0	0	1	426
12:00 PM	2	379	83	6	35	1	0	2	0	0	0	0	0	3	511
1:00	3	458	97	5	31	0	0	2	0	0	0	0	0	3	599
2:00	2	448	84	5	32	0	0	1	0	0	0	0	0	1	573
3:00	0	473	107	18	28	1	0	0	0	0	0	0	0	5	632
4:00	3	572	122	17	37	1	0	1	0	0	0	0	0	13	766
5:00	2	675	131	11	44	0	0	1	0	0	0	0	0	8	872
6:00	1	677	140	3	38	0	0	1	0	0	0	0	0	13	873
7:00	0	438	105	1	25	0	0	0	0	0	0	0	0	1	570
8:00	1	368	84	0	10	0	0	0	0	0	0	0	0	1	464
9:00	0	244	55	0	16	0	0	0	0	0	0	0	0	2	317
10:00	0	143	31	0	4	0	0	0	0	0	0	0	0	0	178
11:00	0	64	11	0	4	0	0	0	0	0	0	0	0	0	79
Total	19	6914	1454	106	457	7	0	15	0	0	0	0	0	67	9039
Percent	0.2%	76.5%	16.1%	1.2%	5.1%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	
AM Peak	8:00	8:00	8:00	8:00	8:00	6:00		8:00						8:00	8:00
	2	555	108	21	48	1	*	4	*	*	*	*	*	11	750
PM Peak	1:00	6:00	6:00	3:00	5:00	12:00 PM		12:00 PM						4:00	6:00
	3	677	140	18	44	1	*	2	*	*	*	*	*	13	873

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Axle Classification Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/17/2023 Time	Motor Cycles	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class	Total
12:00 AM	0	53	11	0	4	1	0	0	0	0	0	0	0	0	69
1:00	0	25	1	0	1	0	0	0	0	0	0	0	0	0	27
2:00	1	15	3	0	1	0	0	0	0	0	0	0	0	0	20
3:00	0	7	5	0	2	0	0	0	0	0	0	0	0	0	14
4:00	1	17	1	0	0	0	0	0	0	0	0	0	0	0	19
5:00	0	9	5	0	2	0	0	0	0	0	0	0	0	0	16
6:00	0	42	7	0	5	0	0	0	0	0	0	0	0	0	54
7:00	0	116	31	6	11	1	0	0	0	0	0	0	0	0	165
8:00	2	490	91	22	41	0	0	0	0	0	0	0	0	4	650
9:00	0	441	90	11	39	0	0	0	0	0	0	0	0	2	583
10:00	0	296	73	5	30	1	0	2	0	0	0	0	0	1	408
11:00	1	222	67	3	24	0	0	0	0	0	0	0	0	1	318
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
Total	5	1733	385	47	160	3	0	2	0	0	0	0	0	8	2343
Percent	0.2%	74.0%	16.4%	2.0%	6.8%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	
AM Peak	8:00	8:00	8:00	8:00	8:00	12:00 AM		10:00						8:00	8:00
	2	490	91	22	41	1	*	2	*	*	*	*	*	4	650
PM Peak	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Grand Total	67	25608	5128	413	1637	22	0	39	1	2	0	0	0	244	33161
Percent	0.2%	77.2%	15.5%	1.2%	4.9%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/13/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	9	8	22	83	44	2	0	1	0	0	0	0	0	0	0	169
5:00	10	12	46	226	158	18	2	0	0	0	0	0	0	0	0	472
6:00	4	15	82	220	139	13	1	0	0	0	0	0	0	0	0	474
7:00	1	5	37	147	82	8	0	0	0	0	0	0	0	0	0	280
8:00	0	1	19	109	51	5	0	0	0	0	0	0	0	0	0	185
9:00	0	0	15	96	47	5	1	1	0	0	0	0	0	0	0	165
10:00	0	0	12	54	30	6	0	0	0	0	0	0	0	0	0	102
11:00	0	0	7	18	17	2	0	0	0	0	0	0	0	0	0	44
Total	24	41	240	953	568	59	4	2	0	0	0	0	0	0	0	1891

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/14/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	2	8	5	5	2	0	0	0	0	0	0	0	0	22
1:00	0	0	2	5	1	3	0	0	0	0	0	0	0	0	0	11
2:00	0	0	1	7	0	0	0	0	0	0	0	0	0	0	0	8
3:00	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	5
4:00	0	0	2	2	0	1	1	0	0	0	0	0	0	0	0	6
5:00	0	0	2	2	8	1	0	0	0	0	0	0	0	0	0	13
6:00	0	0	5	12	5	4	0	0	0	0	0	0	0	0	0	26
7:00	1	0	12	30	22	7	0	0	0	0	0	0	0	0	0	72
8:00	8	13	46	174	99	13	1	0	0	0	0	0	0	0	0	354
9:00	0	1	20	112	113	20	1	0	0	0	0	0	0	1	0	268
10:00	0	0	7	84	89	11	2	0	0	0	0	0	0	0	0	193
11:00	1	0	16	85	77	18	1	0	0	0	1	0	0	0	0	199
12:00 PM	4	0	17	126	92	9	1	0	0	0	0	0	0	0	0	249
1:00	0	2	25	176	141	17	0	0	0	0	0	0	0	0	0	361
2:00	1	0	24	141	153	23	0	0	0	0	0	0	0	0	0	342
3:00	6	5	19	165	164	12	1	0	0	0	0	0	0	0	0	372
4:00	11	4	26	195	180	20	0	0	0	0	0	0	0	0	0	436
5:00	5	2	33	224	179	18	1	0	0	0	0	0	0	0	0	462
6:00	9	11	50	279	160	9	1	0	0	0	0	0	0	0	0	519
7:00	1	2	40	174	93	6	1	0	0	0	0	0	0	0	0	317
8:00	1	6	32	141	99	3	1	0	0	0	0	0	0	0	0	283
9:00	1	4	34	99	64	6	0	0	0	0	0	0	0	0	0	208
10:00	0	0	8	43	42	6	1	0	0	0	0	0	0	0	0	100
11:00	0	0	6	18	25	4	1	0	0	0	0	0	0	0	0	54
Total	49	50	430	2304	1812	217	16	0	0	0	1	0	0	1	0	4880

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/15/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	2	7	9	3	2	0	0	0	0	0	0	0	0	23
1:00	0	0	1	2	10	4	0	0	0	0	0	0	0	0	0	17
2:00	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	7
3:00	0	0	2	2	1	0	1	0	0	0	0	0	0	0	0	6
4:00	0	0	1	2	4	1	0	0	0	0	0	0	0	0	0	8
5:00	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	6
6:00	0	0	5	9	10	2	0	0	0	0	0	0	0	0	0	26
7:00	1	0	10	39	25	6	1	0	0	0	0	0	0	0	0	82
8:00	12	26	41	166	105	6	1	0	0	0	0	0	0	0	0	357
9:00	3	3	26	95	104	8	1	0	0	0	0	0	0	0	0	240
10:00	0	2	15	99	75	6	1	0	0	0	0	0	0	0	0	198
11:00	1	0	14	103	61	10	0	0	0	0	0	0	0	0	0	189
12:00 PM	2	2	12	131	79	9	1	0	0	0	0	0	0	0	0	236
1:00	1	0	14	109	144	17	0	0	0	0	0	0	0	0	0	285
2:00	1	4	35	143	101	13	1	0	0	0	0	0	0	0	0	298
3:00	8	6	25	157	136	20	1	0	0	0	0	0	0	0	0	353
4:00	8	5	23	161	176	16	2	1	0	0	0	0	0	0	0	392
5:00	7	4	50	237	179	17	2	0	0	0	0	0	0	0	0	496
6:00	11	11	49	208	170	11	2	2	0	0	0	0	0	0	0	464
7:00	0	7	58	169	89	3	0	0	0	0	0	0	0	0	0	326
8:00	1	3	23	128	63	5	0	0	0	0	0	0	0	0	0	223
9:00	0	5	19	77	57	9	0	0	0	0	0	0	0	0	0	167
10:00	0	0	10	42	34	6	1	0	0	0	0	0	0	0	0	93
11:00	0	1	4	15	19	7	0	0	0	0	0	0	0	0	0	46
Total	56	79	439	2108	1656	180	17	3	0	0	0	0	0	0	0	4538

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/16/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	4	8	6	2	0	0	0	0	0	0	0	0	0	20
1:00	0	0	3	4	1	0	0	0	0	0	0	0	0	0	0	8
2:00	0	1	1	2	2	1	0	0	0	0	0	0	0	0	0	7
3:00	0	1	2	2	1	2	0	0	0	0	0	0	0	0	0	8
4:00	0	0	2	1	4	1	0	0	0	0	0	0	0	0	0	8
5:00	0	0	4	1	4	1	0	0	0	0	0	0	0	0	0	10
6:00	0	1	5	8	8	2	0	0	0	0	0	0	0	0	0	24
7:00	0	1	8	36	17	7	0	0	0	0	0	0	0	0	0	69
8:00	12	17	60	160	101	8	1	0	0	0	0	0	0	0	0	359
9:00	1	2	19	131	90	5	0	0	0	0	0	0	0	0	0	248
10:00	1	0	18	96	67	7	4	1	1	0	0	0	0	0	0	195
11:00	1	1	36	100	69	10	1	0	0	0	0	0	0	0	0	218
12:00 PM	4	1	24	103	97	9	0	0	0	0	0	0	0	0	0	238
1:00	3	0	19	139	104	13	1	0	0	0	0	0	0	0	0	279
2:00	2	0	21	159	126	11	0	0	0	0	0	0	0	0	0	319
3:00	5	6	29	159	123	13	1	0	0	0	0	0	0	0	0	336
4:00	8	7	51	166	157	14	0	0	0	0	0	0	0	0	0	403
5:00	10	15	53	218	175	13	0	0	0	0	0	0	0	0	0	484
6:00	10	33	100	222	101	10	2	0	0	0	0	0	0	0	0	478
7:00	1	2	34	179	96	12	0	0	0	0	0	0	0	0	0	324
8:00	0	2	36	144	78	5	0	0	0	0	0	0	0	0	0	265
9:00	1	2	19	89	75	7	0	0	0	0	0	0	0	0	0	193
10:00	0	0	10	47	48	6	0	0	0	0	0	0	0	0	0	111
11:00	0	0	5	14	15	5	0	0	0	0	0	0	0	0	0	39
Total	59	92	563	2188	1565	164	10	1	1	0	0	0	0	0	0	4643

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Phone: 518.371.0799 / Fax: 518.371.0822
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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: North, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/17/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	2	7	5	3	0	0	0	0	0	0	0	0	0	17
1:00	0	1	3	1	5	4	0	0	0	0	0	0	0	0	0	14
2:00	0	1	3	3	1	2	0	0	0	0	0	0	0	0	0	10
3:00	0	0	1	6	1	0	0	0	0	0	0	0	0	0	0	8
4:00	0	0	2	3	2	1	0	0	1	0	0	0	0	0	0	9
5:00	0	0	0	4	1	1	0	0	0	0	0	0	0	0	0	6
6:00	0	1	5	7	12	2	0	0	0	0	0	0	0	0	0	27
7:00	0	0	13	34	14	3	1	0	0	0	0	0	0	0	0	65
8:00	6	9	40	136	99	8	0	0	0	0	0	0	0	0	0	298
9:00	0	3	35	103	88	13	0	0	0	0	0	0	0	0	2	244
10:00	0	0	20	99	59	7	0	0	0	0	0	0	0	0	0	185
11:00	0	4	20	67	49	7	0	0	0	0	0	0	0	0	0	147
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
Total	6	19	144	470	336	51	1	0	1	0	0	0	0	0	2	1030
Grand Total	194	281	1816	8023	5937	671	48	6	2	0	1	0	0	1	2	16982

Stats	Percentile	15th	50th	85th	95th
	Speed	30	34	38	40
	Mean Speed (Average)	33.8			
	10 MPH Pace Speed	30-39			
	Number in Pace	13878			
	Percent in Pace	81.7%			
	Number > 45 MPH	60			
	Percent > 45 MPH	0.4%			

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/13/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	8	11	28	70	33	6	0	0	0	0	0	0	0	0	0	156
5:00	1	1	33	148	161	38	5	0	0	0	0	0	0	0	0	387
6:00	1	0	38	146	155	40	0	0	0	0	0	0	0	0	0	380
7:00	0	1	19	82	106	24	4	1	0	0	0	0	0	0	0	237
8:00	0	1	4	39	54	23	3	1	0	0	0	0	0	0	0	125
9:00	0	0	5	38	44	11	0	1	0	0	0	0	0	0	0	99
10:00	0	1	3	10	26	10	1	0	0	0	0	0	0	0	0	51
11:00	0	0	0	9	16	9	3	0	0	0	0	0	0	0	0	37
Total	10	15	130	542	595	161	16	3	0	0	0	0	0	0	0	1472

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/14/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	1	9	13	14	1	1	0	0	0	0	0	0	0	39
1:00	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	6
2:00	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	4
3:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:00	0	0	2	1	1	2	0	0	0	0	0	0	0	0	0	6
5:00	0	0	1	3	8	1	2	0	0	0	0	0	0	0	0	15
6:00	0	1	2	10	10	9	1	0	0	0	0	0	0	0	0	33
7:00	0	2	7	54	50	7	2	0	0	0	0	0	0	0	0	122
8:00	5	0	30	170	140	26	1	0	0	0	0	0	0	0	0	372
9:00	3	2	25	187	157	23	1	0	0	0	0	0	0	0	0	398
10:00	0	0	18	103	115	21	3	0	0	0	0	0	0	0	0	260
11:00	2	1	20	106	113	25	2	0	0	0	0	0	0	0	0	269
12:00 PM	4	0	20	97	135	33	6	0	0	0	0	0	0	0	0	295
1:00	1	1	27	96	176	42	5	2	0	0	0	0	0	0	0	350
2:00	2	0	19	121	127	38	4	0	0	0	0	0	0	0	0	311
3:00	2	0	25	92	117	34	2	0	0	0	0	0	0	0	0	272
4:00	6	1	18	160	163	28	2	0	0	0	0	0	0	0	0	378
5:00	6	0	36	189	190	35	1	1	1	0	0	0	0	0	0	459
6:00	5	1	24	137	180	29	6	0	0	0	0	0	0	0	0	382
7:00	0	0	25	90	114	27	2	0	0	0	0	0	0	0	0	258
8:00	3	0	12	54	79	19	2	0	0	0	0	0	0	0	0	169
9:00	0	0	4	36	63	11	1	0	1	0	0	0	0	0	0	116
10:00	0	0	4	28	38	13	4	2	0	0	0	0	0	0	0	89
11:00	0	0	2	10	25	11	3	0	0	0	0	0	0	0	0	51
Total	39	9	322	1756	2019	450	53	6	2	0	0	0	0	0	0	4656

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/15/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	2	7	5	3	2	0	0	0	0	0	0	0	0	19
1:00	0	0	0	5	4	1	0	0	0	0	0	0	0	0	0	10
2:00	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	5
3:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
4:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
5:00	0	0	1	1	3	3	2	0	0	0	0	0	0	0	0	10
6:00	1	0	4	7	8	3	1	0	0	0	0	0	0	0	0	24
7:00	0	0	4	57	38	4	1	0	0	0	0	0	0	0	0	104
8:00	2	1	38	169	159	20	0	0	0	0	0	0	0	0	0	389
9:00	4	5	43	187	113	19	0	0	0	0	0	0	0	0	0	371
10:00	0	0	23	115	91	15	0	0	0	0	0	0	0	0	0	244
11:00	0	2	24	87	88	21	1	0	0	0	0	0	0	0	0	223
12:00 PM	2	3	23	97	110	32	3	0	0	0	0	0	0	0	0	270
1:00	2	1	27	105	136	35	3	1	0	0	0	0	0	0	0	310
2:00	1	3	11	125	118	26	2	0	0	0	0	0	0	0	0	286
3:00	1	2	17	102	121	38	5	0	0	0	0	0	0	0	0	286
4:00	5	0	29	127	181	37	5	0	0	0	0	0	0	0	0	384
5:00	8	3	35	154	163	39	1	1	0	0	0	0	0	0	0	404
6:00	1	1	29	132	173	26	4	0	0	0	0	0	0	0	0	366
7:00	3	1	22	72	93	31	2	0	0	0	0	0	0	0	0	224
8:00	1	1	4	52	71	28	3	0	0	0	0	0	0	0	0	160
9:00	0	1	16	43	51	34	2	1	0	0	0	0	0	0	0	148
10:00	0	1	4	23	19	12	4	0	0	0	0	0	0	0	0	63
11:00	0	0	0	8	16	10	4	0	0	0	0	0	0	0	0	38
Total	31	25	357	1677	1764	439	46	3	0	0	0	0	0	0	0	4342

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/16/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	1	9	12	8	4	2	0	0	0	0	0	0	0	36
1:00	0	0	0	3	4	4	1	0	0	0	0	0	0	0	0	12
2:00	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	1	4	1	0	0	0	0	0	0	0	0	0	6
5:00	0	0	2	2	6	2	2	0	0	0	0	0	0	0	0	14
6:00	1	0	1	10	7	5	0	0	0	0	0	0	0	0	0	24
7:00	1	0	11	51	47	10	0	0	0	0	0	0	0	0	0	120
8:00	7	2	35	180	145	21	1	0	0	0	0	0	0	0	0	391
9:00	0	2	25	168	126	22	1	1	0	0	0	0	0	0	0	345
10:00	0	2	37	101	109	22	1	0	0	0	0	0	0	0	0	272
11:00	1	2	21	94	70	16	3	0	1	0	0	0	0	0	0	208
12:00 PM	1	0	44	125	74	29	0	0	0	0	0	0	0	0	0	273
1:00	4	1	34	147	105	27	2	0	0	0	0	0	0	0	0	320
2:00	0	0	29	75	120	29	1	0	0	0	0	0	0	0	0	254
3:00	4	2	25	115	122	26	2	0	0	0	0	0	0	0	0	296
4:00	8	0	52	161	119	23	0	0	0	0	0	0	0	0	0	363
5:00	4	1	28	148	165	39	2	0	0	0	0	1	0	0	0	388
6:00	2	4	51	149	157	29	3	0	0	0	0	0	0	0	0	395
7:00	0	2	16	81	116	28	3	0	0	0	0	0	0	0	0	246
8:00	0	1	10	77	91	18	2	0	0	0	0	0	0	0	0	199
9:00	0	1	7	40	52	21	2	1	0	0	0	0	0	0	0	124
10:00	0	0	1	18	31	14	2	1	0	0	0	0	0	0	0	67
11:00	0	0	3	11	20	4	2	0	0	0	0	0	0	0	0	40
Total	33	20	434	1767	1702	399	34	5	1	0	0	1	0	0	0	4396

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: South, Lane 1

Start Date: 2/13/2023
End Date: 2/17/2023

2/17/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	2	6	24	17	2	1	0	0	0	0	0	0	0	52
1:00	0	0	2	4	5	2	0	0	0	0	0	0	0	0	0	13
2:00	0	1	2	1	3	1	2	0	0	0	0	0	0	0	0	10
3:00	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	6
4:00	0	0	0	4	2	2	2	0	0	0	0	0	0	0	0	10
5:00	0	0	2	2	4	2	0	0	0	0	0	0	0	0	0	10
6:00	0	0	3	10	13	1	0	0	0	0	0	0	0	0	0	27
7:00	0	0	11	42	36	9	2	0	0	0	0	0	0	0	0	100
8:00	4	1	37	167	116	24	3	0	0	0	0	0	0	0	0	352
9:00	0	7	47	168	103	11	3	0	0	0	0	0	0	0	0	339
10:00	0	4	32	98	76	12	1	0	0	0	0	0	0	0	0	223
11:00	0	1	24	77	48	18	3	0	0	0	0	0	0	0	0	171
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
Total	4	14	162	582	433	99	18	1	0	0	0	0	0	0	0	1313
Grand Total	117	83	1405	6324	6513	1548	167	18	3	0	0	1	0	0	0	16179

Stats	Percentile	15th	50th	85th	95th
	Speed	31	35	39	42

Mean Speed (Average)	35.1
10 MPH Pace Speed	30-39
Number in Pace	12735
Percent in Pace	78.7%
Number > 45 MPH	189
Percent > 45 MPH	1.2%

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/13/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	17	19	50	153	77	8	0	1	0	0	0	0	0	0	0	325
5:00	11	13	79	374	319	56	7	0	0	0	0	0	0	0	0	859
6:00	5	15	120	366	294	53	1	0	0	0	0	0	0	0	0	854
7:00	1	6	56	229	188	32	4	1	0	0	0	0	0	0	0	517
8:00	0	2	23	148	105	28	3	1	0	0	0	0	0	0	0	310
9:00	0	0	20	134	91	16	1	2	0	0	0	0	0	0	0	264
10:00	0	1	15	64	56	16	1	0	0	0	0	0	0	0	0	153
11:00	0	0	7	27	33	11	3	0	0	0	0	0	0	0	0	81
Total	34	56	370	1495	1163	220	20	5	0	0	0	0	0	0	0	3363

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/14/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	3	17	18	19	3	1	0	0	0	0	0	0	0	61
1:00	0	0	2	5	3	5	2	0	0	0	0	0	0	0	0	17
2:00	0	0	1	8	3	0	0	0	0	0	0	0	0	0	0	12
3:00	0	0	1	4	1	1	0	0	0	0	0	0	0	0	0	7
4:00	0	0	4	3	1	3	1	0	0	0	0	0	0	0	0	12
5:00	0	0	3	5	16	2	2	0	0	0	0	0	0	0	0	28
6:00	0	1	7	22	15	13	1	0	0	0	0	0	0	0	0	59
7:00	1	2	19	84	72	14	2	0	0	0	0	0	0	0	0	194
8:00	13	13	76	344	239	39	2	0	0	0	0	0	0	0	0	726
9:00	3	3	45	299	270	43	2	0	0	0	0	0	0	1	0	666
10:00	0	0	25	187	204	32	5	0	0	0	0	0	0	0	0	453
11:00	3	1	36	191	190	43	3	0	0	0	1	0	0	0	0	468
12:00 PM	8	0	37	223	227	42	7	0	0	0	0	0	0	0	0	544
1:00	1	3	52	272	317	59	5	2	0	0	0	0	0	0	0	711
2:00	3	0	43	262	280	61	4	0	0	0	0	0	0	0	0	653
3:00	8	5	44	257	281	46	3	0	0	0	0	0	0	0	0	644
4:00	17	5	44	355	343	48	2	0	0	0	0	0	0	0	0	814
5:00	11	2	69	413	369	53	2	1	1	0	0	0	0	0	0	921
6:00	14	12	74	416	340	38	7	0	0	0	0	0	0	0	0	901
7:00	1	2	65	264	207	33	3	0	0	0	0	0	0	0	0	575
8:00	4	6	44	195	178	22	3	0	0	0	0	0	0	0	0	452
9:00	1	4	38	135	127	17	1	0	1	0	0	0	0	0	0	324
10:00	0	0	12	71	80	19	5	2	0	0	0	0	0	0	0	189
11:00	0	0	8	28	50	15	4	0	0	0	0	0	0	0	0	105
Total	88	59	752	4060	3831	667	69	6	2	0	1	0	0	1	0	9536

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/15/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	4	14	14	6	4	0	0	0	0	0	0	0	0	42
1:00	0	0	1	7	14	5	0	0	0	0	0	0	0	0	0	27
2:00	0	0	0	7	2	2	1	0	0	0	0	0	0	0	0	12
3:00	0	0	2	2	2	1	1	0	0	0	0	0	0	0	0	8
4:00	0	0	2	3	4	1	0	0	0	0	0	0	0	0	0	10
5:00	0	0	1	2	8	3	2	0	0	0	0	0	0	0	0	16
6:00	1	0	9	16	18	5	1	0	0	0	0	0	0	0	0	50
7:00	1	0	14	96	63	10	2	0	0	0	0	0	0	0	0	186
8:00	14	27	79	335	264	26	1	0	0	0	0	0	0	0	0	746
9:00	7	8	69	282	217	27	1	0	0	0	0	0	0	0	0	611
10:00	0	2	38	214	166	21	1	0	0	0	0	0	0	0	0	442
11:00	1	2	38	190	149	31	1	0	0	0	0	0	0	0	0	412
12:00 PM	4	5	35	228	189	41	4	0	0	0	0	0	0	0	0	506
1:00	3	1	41	214	280	52	3	1	0	0	0	0	0	0	0	595
2:00	2	7	46	268	219	39	3	0	0	0	0	0	0	0	0	584
3:00	9	8	42	259	257	58	6	0	0	0	0	0	0	0	0	639
4:00	13	5	52	288	357	53	7	1	0	0	0	0	0	0	0	776
5:00	15	7	85	391	342	56	3	1	0	0	0	0	0	0	0	900
6:00	12	12	78	340	343	37	6	2	0	0	0	0	0	0	0	830
7:00	3	8	80	241	182	34	2	0	0	0	0	0	0	0	0	550
8:00	2	4	27	180	134	33	3	0	0	0	0	0	0	0	0	383
9:00	0	6	35	120	108	43	2	1	0	0	0	0	0	0	0	315
10:00	0	1	14	65	53	18	5	0	0	0	0	0	0	0	0	156
11:00	0	1	4	23	35	17	4	0	0	0	0	0	0	0	0	84
Total	87	104	796	3785	3420	619	63	6	0	0	0	0	0	0	0	8880

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/16/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	5	17	18	10	4	2	0	0	0	0	0	0	0	56
1:00	0	0	3	7	5	4	1	0	0	0	0	0	0	0	0	20
2:00	0	1	2	3	2	2	0	0	0	0	0	0	0	0	0	10
3:00	0	1	2	2	1	2	0	0	0	0	0	0	0	0	0	8
4:00	0	0	2	2	8	2	0	0	0	0	0	0	0	0	0	14
5:00	0	0	6	3	10	3	2	0	0	0	0	0	0	0	0	24
6:00	1	1	6	18	15	7	0	0	0	0	0	0	0	0	0	48
7:00	1	1	19	87	64	17	0	0	0	0	0	0	0	0	0	189
8:00	19	19	95	340	246	29	2	0	0	0	0	0	0	0	0	750
9:00	1	4	44	299	216	27	1	1	0	0	0	0	0	0	0	593
10:00	1	2	55	197	176	29	5	1	1	0	0	0	0	0	0	467
11:00	2	3	57	194	139	26	4	0	1	0	0	0	0	0	0	426
12:00 PM	5	1	68	228	171	38	0	0	0	0	0	0	0	0	0	511
1:00	7	1	53	286	209	40	3	0	0	0	0	0	0	0	0	599
2:00	2	0	50	234	246	40	1	0	0	0	0	0	0	0	0	573
3:00	9	8	54	274	245	39	3	0	0	0	0	0	0	0	0	632
4:00	16	7	103	327	276	37	0	0	0	0	0	0	0	0	0	766
5:00	14	16	81	366	340	52	2	0	0	0	0	1	0	0	0	872
6:00	12	37	151	371	258	39	5	0	0	0	0	0	0	0	0	873
7:00	1	4	50	260	212	40	3	0	0	0	0	0	0	0	0	570
8:00	0	3	46	221	169	23	2	0	0	0	0	0	0	0	0	464
9:00	1	3	26	129	127	28	2	1	0	0	0	0	0	0	0	317
10:00	0	0	11	65	79	20	2	1	0	0	0	0	0	0	0	178
11:00	0	0	8	25	35	9	2	0	0	0	0	0	0	0	0	79
Total	92	112	997	3955	3267	563	44	6	2	0	0	1	0	0	0	9039

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Vehicle Speed Report

Site Code: 182001
Serial Number: 39513
Location 1: Sand Creek Road
Location 2: 325' from Shaker Run
Direction: Combined

Start Date: 2/13/2023
End Date: 2/17/2023

2/17/2023 Time	0 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 - 75 MPH	> 75 - 80 MPH	> 80 - 85 MPH	> 85 MPH	Total
12:00 AM	0	0	4	13	29	20	2	1	0	0	0	0	0	0	0	69
1:00	0	1	5	5	10	6	0	0	0	0	0	0	0	0	0	27
2:00	0	2	5	4	4	3	2	0	0	0	0	0	0	0	0	20
3:00	0	0	1	9	4	0	0	0	0	0	0	0	0	0	0	14
4:00	0	0	2	7	4	3	2	0	1	0	0	0	0	0	0	19
5:00	0	0	2	6	5	3	0	0	0	0	0	0	0	0	0	16
6:00	0	1	8	17	25	3	0	0	0	0	0	0	0	0	0	54
7:00	0	0	24	76	50	12	3	0	0	0	0	0	0	0	0	165
8:00	10	10	77	303	215	32	3	0	0	0	0	0	0	0	0	650
9:00	0	10	82	271	191	24	3	0	0	0	0	0	0	0	2	583
10:00	0	4	52	197	135	19	1	0	0	0	0	0	0	0	0	408
11:00	0	5	44	144	97	25	3	0	0	0	0	0	0	0	0	318
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
Total	10	33	306	1052	769	150	19	1	1	0	0	0	0	0	2	2343
Grand Total	311	364	3221	14347	12450	2219	215	24	5	0	1	1	0	1	2	33161

Stats	Percentile	15th	50th	85th	95th
	Speed	31	34	38	41
	Mean Speed (Average)	34.4			
	10 MPH Pace Speed	30-39			
	Number in Pace	26613			
	Percent in Pace	80.3%			
	Number > 45 MPH	249			
	Percent > 45 MPH	0.8%			

EXISTING
TRAFFIC ANALYSIS
RESULTS

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	31	83	325	48	53	216
Future Vol, veh/h	31	83	325	48	53	216
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	90	353	52	58	235

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	731	380	0	0	406	0
Stage 1	380	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	389	667	-	-	1153	-
Stage 1	691	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	366	666	-	-	1152	-
Mov Cap-2 Maneuver	366	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	672	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s	13.5	0	1.6
HCM LOS	B		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	1152	-	545	-	-
HCM Lane V/C Ratio	0.05	-	0.227	-	-
HCM Control Delay (s)	8.3	0	13.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	-	-

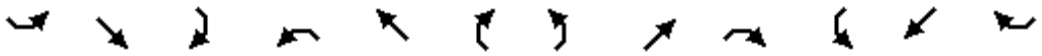
Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	34	74	278	51	123	376
Future Vol, veh/h	34	74	278	51	123	376
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	37	80	302	55	134	409

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1008	331	0	0	358	0
Stage 1	331	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	269	715	-	-	1212	-
Stage 1	732	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	230	714	-	-	1211	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s	16.5	0	2.1
HCM LOS	C		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	1211	-	429	-	-
HCM Lane V/C Ratio	0.11	-	0.274	-	-
HCM Control Delay (s)	8.3	0	16.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.1	-	-



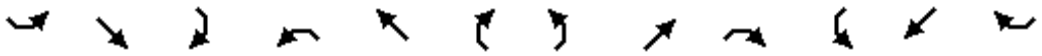
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Future Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	402	36	3	265	15	3	4	1	13	9	43
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	813	68	75	1049	59	183	209	42	116	81	216
Arrive On Green	0.60	0.60	0.60	0.60	0.60	0.60	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	224	1356	113	3	1748	98	420	1043	209	146	405	1078
Grp Volume(v), veh/h	540	0	0	283	0	0	8	0	0	65	0	0
Grp Sat Flow(s),veh/h/ln	1693	0	0	1849	0	0	1672	0	0	1629	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	3.6	0.0	0.0	0.2	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.19		0.07	0.01		0.05	0.37		0.12	0.20		0.66
Lane Grp Cap(c), veh/h	1101	0	0	1182	0	0	433	0	0	412	0	0
V/C Ratio(X)	0.49	0.00	0.00	0.24	0.00	0.00	0.02	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	1265	0	0	1366	0	0	754	0	0	728	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.7	0.0	0.0	4.7	0.0	0.0	16.1	0.0	0.0	16.6	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	0.9	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	0.0	0.0	4.8	0.0	0.0	16.1	0.0	0.0	16.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		540			283			8			65	
Approach Delay, s/veh		6.0			4.8			16.1			16.8	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.0		35.0		15.0		35.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		20.0		35.0		20.0		35.0				
Max Q Clear Time (g_c+I1), s		2.2		10.3		3.6		5.6				
Green Ext Time (p_c), s		0.0		4.0		0.2		1.8				

Intersection Summary												
HCM 6th Ctrl Delay			6.5									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
34: Sand Creek Rd & Computer Dr S

05/05/2023



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Future Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	136	744	16	0	649	12	56	28	8	52	8	164
Peak Hour Factor	0.73	0.91	0.50	0.92	0.96	0.50	0.80	0.43	0.50	0.71	0.38	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	179	800	16	0	1178	22	246	110	24	129	31	216
Arrive On Green	0.63	0.63	0.63	0.00	0.63	0.63	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	163	1262	26	0	1859	34	760	593	129	262	166	1168
Grp Volume(v), veh/h	896	0	0	0	0	661	92	0	0	224	0	0
Grp Sat Flow(s),veh/h/ln	1451	0	0	0	0	1894	1481	0	0	1595	0	0
Q Serve(g_s), s	22.2	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0	4.4	0.0	0.0
Cycle Q Clear(g_c), s	33.0	0.0	0.0	0.0	0.0	10.8	2.7	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.15		0.02	0.00		0.02	0.61		0.09	0.23		0.73
Lane Grp Cap(c), veh/h	995	0	0	0	0	1200	379	0	0	376	0	0
V/C Ratio(X)	0.90	0.00	0.00	0.00	0.00	0.55	0.24	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	995	0	0	0	0	1200	629	0	0	652	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.1	0.0	0.0	0.0	0.0	5.7	19.3	0.0	0.0	21.2	0.0	0.0
Incr Delay (d2), s/veh	11.1	0.0	0.0	0.0	0.0	0.5	0.3	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	0.0	0.0	0.0	0.0	3.0	1.0	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	0.0	0.0	0.0	0.0	6.2	19.7	0.0	0.0	22.8	0.0	0.0
LnGrp LOS	C	A	A	A	A	A	B	A	A	C	A	A
Approach Vol, veh/h		896			661			92			224	
Approach Delay, s/veh		21.2			6.2			19.7			22.8	
Approach LOS		C			A			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.2		40.0		15.2		40.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		20.0		35.0		20.0		35.0				
Max Q Clear Time (g_c+I1), s		4.7		35.0		9.3		12.8				
Green Ext Time (p_c), s		0.4		0.0		0.9		4.7				

Intersection Summary												
HCM 6th Ctrl Delay			16.0									
HCM 6th LOS			B									

FUTURE
TRAFFIC ANALYSIS
RESULTS

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	31	83	325	48	53	216
Future Volume (vph)	31	83	325	48	53	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0			5.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.90		0.98			1.00
Flt Protected	0.99		1.00			0.99
Satd. Flow (prot)	1658		1826			1844
Flt Permitted	0.91		1.00			0.87
Satd. Flow (perm)	1524		1826			1626
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	90	353	52	58	235
RTOR Reduction (vph)	71	0	10	0	0	0
Lane Group Flow (vph)	53	0	395	0	0	293
Confl. Peds. (#/hr)				1		
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	
Actuated Green, G (s)	8.0		20.7			20.7
Effective Green, g (s)	8.0		20.7			20.7
Actuated g/C Ratio	0.21		0.53			0.53
Clearance Time (s)	5.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	315		976			869
v/s Ratio Prot			c0.22			
v/s Ratio Perm	c0.03					0.18
v/c Ratio	0.17		0.40			0.34
Uniform Delay, d1	12.6		5.3			5.1
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.3		0.3			0.2
Delay (s)	12.9		5.6			5.3
Level of Service	B		A			A
Approach Delay (s)	12.9		5.6			5.3
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Future Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	402	36	3	265	15	3	4	1	13	9	43
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	706	969	87	547	891	50	155	177	35	99	68	182
Arrive On Green	0.07	0.57	0.57	0.00	0.51	0.51	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	1692	151	1781	1753	99	420	1043	209	151	400	1077
Grp Volume(v), veh/h	102	0	438	3	0	280	8	0	0	65	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1843	1781	0	1852	1672	0	0	1627	0	0
Q Serve(g_s), s	1.5	0.0	7.9	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	7.9	0.0	0.0	5.2	0.2	0.0	0.0	2.0	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.05	0.37		0.12	0.20		0.66
Lane Grp Cap(c), veh/h	706	0	1055	547	0	941	367	0	0	349	0	0
V/C Ratio(X)	0.14	0.00	0.41	0.01	0.00	0.30	0.02	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	735	0	1092	691	0	1098	638	0	0	616	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	7.1	7.2	0.0	8.4	20.5	0.0	0.0	21.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.4	0.0	0.0	1.8	0.1	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.0	7.3	7.2	0.0	8.6	20.5	0.0	0.0	21.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		540			283			8			65	
Approach Delay, s/veh		7.0			8.6			20.5			21.5	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.0	5.2	38.8		15.0	9.1	35.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		20.0	5.0	35.0		20.0	5.0	35.0				
Max Q Clear Time (g_c+I1), s		2.2	2.0	9.9		4.0	3.5	7.2				
Green Ext Time (p_c), s		0.0	0.0	2.9		0.2	0.0	1.7				

Intersection Summary												
HCM 6th Ctrl Delay			8.7									
HCM 6th LOS			A									

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	31	83	325	48	53	216
Future Volume (vph)	31	83	325	48	53	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0			5.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.90		0.98			1.00
Flt Protected	0.99		1.00			0.99
Satd. Flow (prot)	1657		1826			1844
Flt Permitted	0.91		1.00			0.87
Satd. Flow (perm)	1526		1826			1622
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	34	92	360	53	59	239
RTOR Reduction (vph)	73	0	10	0	0	0
Lane Group Flow (vph)	53	0	403	0	0	298
Confl. Peds. (#/hr)				1		
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	
Actuated Green, G (s)	8.0		20.7			20.7
Effective Green, g (s)	8.0		20.7			20.7
Actuated g/C Ratio	0.21		0.53			0.53
Clearance Time (s)	5.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	315		976			867
v/s Ratio Prot			c0.22			
v/s Ratio Perm	c0.03					0.18
v/c Ratio	0.17		0.41			0.34
Uniform Delay, d1	12.6		5.4			5.1
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.3		0.3			0.2
Delay (s)	12.9		5.7			5.4
Level of Service	B		A			A
Approach Delay (s)	12.9		5.7			5.4
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Future Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	410	37	3	271	16	3	4	1	13	9	44
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	701	968	87	540	888	52	155	176	35	98	67	184
Arrive On Green	0.07	0.57	0.57	0.00	0.51	0.51	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	1690	153	1781	1749	103	420	1043	209	149	394	1085
Grp Volume(v), veh/h	104	0	447	3	0	287	8	0	0	66	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1843	1781	0	1852	1671	0	0	1627	0	0
Q Serve(g_s), s	1.5	0.0	8.1	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	8.1	0.0	0.0	5.3	0.2	0.0	0.0	2.0	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.06	0.37		0.12	0.20		0.67
Lane Grp Cap(c), veh/h	701	0	1056	540	0	940	367	0	0	348	0	0
V/C Ratio(X)	0.15	0.00	0.42	0.01	0.00	0.31	0.02	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	728	0	1092	684	0	1097	638	0	0	616	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	7.1	7.2	0.0	8.5	20.5	0.0	0.0	21.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.5	0.0	0.0	1.8	0.1	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.0	7.4	7.2	0.0	8.7	20.5	0.0	0.0	21.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		551			290			8			66	
Approach Delay, s/veh		7.1			8.6			20.5			21.5	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.0	5.2	38.9		15.0	9.1	35.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		20.0	5.0	35.0		20.0	5.0	35.0				
Max Q Clear Time (g_c+I1), s		2.2	2.0	10.1		4.0	3.5	7.3				
Green Ext Time (p_c), s		0.0	0.0	3.0		0.2	0.0	1.8				

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	31	83	325	48	53	216
Future Volume (vph)	31	83	325	48	53	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0			5.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.90		0.98			1.00
Flt Protected	0.99		1.00			0.99
Satd. Flow (prot)	1657		1825			1845
Flt Permitted	0.91		1.00			0.87
Satd. Flow (perm)	1524		1825			1618
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	105%	105%	105%	105%	105%	105%
Adj. Flow (vph)	35	95	371	55	60	247
RTOR Reduction (vph)	75	0	10	0	0	0
Lane Group Flow (vph)	55	0	416	0	0	307
Confl. Peds. (#/hr)				1		
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	
Actuated Green, G (s)	7.9		20.5			20.5
Effective Green, g (s)	7.9		20.5			20.5
Actuated g/C Ratio	0.21		0.53			0.53
Clearance Time (s)	5.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	313		974			863
v/s Ratio Prot			c0.23			
v/s Ratio Perm	c0.04					0.19
v/c Ratio	0.17		0.43			0.36
Uniform Delay, d1	12.6		5.4			5.2
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.3		0.3			0.3
Delay (s)	12.8		5.7			5.4
Level of Service	B		A			A
Approach Delay (s)	12.8		5.7			5.4
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	38.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Future Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	422	38	3	278	16	3	5	1	14	9	46
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	696	969	87	531	888	51	141	196	32	100	65	183
Arrive On Green	0.07	0.57	0.57	0.00	0.51	0.51	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	1691	152	1781	1751	101	354	1156	189	156	385	1083
Grp Volume(v), veh/h	107	0	460	3	0	294	9	0	0	69	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1843	1781	0	1852	1699	0	0	1624	0	0
Q Serve(g_s), s	1.5	0.0	8.4	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	8.4	0.0	0.0	5.5	0.2	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.05	0.33		0.11	0.20		0.67
Lane Grp Cap(c), veh/h	696	0	1056	531	0	940	369	0	0	348	0	0
V/C Ratio(X)	0.15	0.00	0.44	0.01	0.00	0.31	0.02	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	722	0	1091	674	0	1096	644	0	0	615	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	7.2	7.2	0.0	8.5	20.5	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.6	0.0	0.0	1.9	0.1	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.0	7.5	7.2	0.0	8.7	20.5	0.0	0.0	21.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		567			297			9			69	
Approach Delay, s/veh		7.1			8.7			20.5			21.6	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.0	5.2	38.9		15.0	9.1	35.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		20.0	5.0	35.0		20.0	5.0	35.0				
Max Q Clear Time (g_c+I1), s		2.2	2.0	10.4		4.1	3.5	7.5				
Green Ext Time (p_c), s		0.0	0.0	3.1		0.2	0.0	1.8				

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	31	83	325	48	53	216
Future Volume (vph)	31	83	325	48	53	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0			5.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.90		0.98			1.00
Flt Protected	0.99		1.00			0.99
Satd. Flow (prot)	1657		1826			1845
Flt Permitted	0.91		1.00			0.86
Satd. Flow (perm)	1524		1826			1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	108%	108%	108%	108%	108%	108%
Adj. Flow (vph)	36	97	382	56	62	254
RTOR Reduction (vph)	77	0	10	0	0	0
Lane Group Flow (vph)	56	0	428	0	0	316
Confl. Peds. (#/hr)				1		
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	
Actuated Green, G (s)	7.9		20.7			20.7
Effective Green, g (s)	7.9		20.7			20.7
Actuated g/C Ratio	0.20		0.54			0.54
Clearance Time (s)	5.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	311		979			863
v/s Ratio Prot			c0.23			
v/s Ratio Perm	c0.04					0.20
v/c Ratio	0.18		0.44			0.37
Uniform Delay, d1	12.7		5.4			5.2
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.3		0.3			0.3
Delay (s)	13.0		5.7			5.4
Level of Service	B		A			A
Approach Delay (s)	13.0		5.7			5.4
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	38.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Future Volume (veh/h)	94	370	33	3	244	14	3	4	1	12	8	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	434	39	4	286	16	4	5	1	14	9	47
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	690	968	87	522	889	50	163	175	28	99	64	184
Arrive On Green	0.07	0.57	0.57	0.01	0.51	0.51	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	1691	152	1781	1755	98	461	1034	166	154	379	1090
Grp Volume(v), veh/h	110	0	473	4	0	302	10	0	0	70	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1843	1781	0	1853	1662	0	0	1624	0	0
Q Serve(g_s), s	1.6	0.0	8.7	0.1	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	0.0	8.7	0.1	0.0	5.7	0.3	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.05	0.40		0.10	0.20		0.67
Lane Grp Cap(c), veh/h	690	0	1055	522	0	939	366	0	0	347	0	0
V/C Ratio(X)	0.16	0.00	0.45	0.01	0.00	0.32	0.03	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	715	0	1090	663	0	1096	635	0	0	614	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	7.3	7.3	0.0	8.6	20.5	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.7	0.0	0.0	1.9	0.1	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.8	0.0	7.6	7.3	0.0	8.8	20.6	0.0	0.0	21.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		583			306			10			70	
Approach Delay, s/veh		7.2			8.8			20.6			21.6	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.0	5.3	38.9		15.0	9.2	35.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		20.0	5.0	35.0		20.0	5.0	35.0				
Max Q Clear Time (g_c+I1), s		2.3	2.1	10.7		4.2	3.6	7.7				
Green Ext Time (p_c), s		0.0	0.0	3.2		0.2	0.0	1.9				

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	34	74	278	51	123	376
Future Volume (vph)	34	74	278	51	123	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0			5.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.91		0.98			1.00
Flt Protected	0.98		1.00			0.99
Satd. Flow (prot)	1698		1854			1877
Flt Permitted	0.89		1.00			0.83
Satd. Flow (perm)	1541		1854			1571
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	80	302	55	134	409
RTOR Reduction (vph)	66	0	10	0	0	0
Lane Group Flow (vph)	51	0	347	0	0	543
Confl. Peds. (#/hr)				1		
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	
Actuated Green, G (s)	7.8		26.7			26.7
Effective Green, g (s)	7.8		26.7			26.7
Actuated g/C Ratio	0.18		0.60			0.60
Clearance Time (s)	5.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	270		1112			942
v/s Ratio Prot			0.19			
v/s Ratio Perm	c0.03					c0.35
v/c Ratio	0.19		0.31			0.58
Uniform Delay, d1	15.7		4.4			5.4
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.3		0.2			0.9
Delay (s)	16.0		4.5			6.3
Level of Service	B		A			A
Approach Delay (s)	16.0		4.5			6.3
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	44.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Future Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	136	744	16	0	649	12	56	28	8	52	8	164
Peak Hour Factor	0.73	0.91	0.50	0.92	0.96	0.50	0.80	0.43	0.50	0.71	0.38	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	432	1212	26	425	924	17	228	102	22	121	29	211
Arrive On Green	0.07	0.65	0.65	0.00	0.50	0.50	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1810	1853	40	1810	1859	34	734	567	124	266	163	1170
Grp Volume(v), veh/h	136	0	760	0	0	661	92	0	0	224	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1893	1810	0	1894	1425	0	0	1598	0	0
Q Serve(g_s), s	1.9	0.0	14.0	0.0	0.0	16.3	0.0	0.0	0.0	4.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	0.0	14.0	0.0	0.0	16.3	3.1	0.0	0.0	8.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.02	0.61		0.09	0.23		0.73
Lane Grp Cap(c), veh/h	432	0	1238	425	0	941	353	0	0	362	0	0
V/C Ratio(X)	0.31	0.00	0.61	0.00	0.00	0.70	0.26	0.00	0.00	0.62	0.00	0.00
Avail Cap(c_a), veh/h	448	0	1238	571	0	1098	566	0	0	597	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.5	0.0	6.0	0.0	0.0	11.7	21.4	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.9	0.0	0.0	1.7	0.4	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	4.0	0.0	0.0	6.1	1.1	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	0.0	6.9	0.0	0.0	13.4	21.8	0.0	0.0	25.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		896			661			92			224	
Approach Delay, s/veh		7.2			13.4			21.8			25.2	
Approach LOS		A			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.9	0.0	44.5		15.9	9.5	35.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		20.0	5.0	35.0		20.0	5.0	35.0				
Max Q Clear Time (g_c+I1), s		5.1	0.0	16.0		10.0	3.9	18.3				
Green Ext Time (p_c), s		0.4	0.0	5.4		0.9	0.0	4.2				

Intersection Summary	
HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	34	74	278	51	123	376
Future Volume (vph)	34	74	278	51	123	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0			5.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.91		0.98			1.00
Flt Protected	0.98		1.00			0.99
Satd. Flow (prot)	1698		1854			1877
Flt Permitted	0.89		1.00			0.82
Satd. Flow (perm)	1541		1854			1566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	38	82	308	57	136	417
RTOR Reduction (vph)	68	0	11	0	0	0
Lane Group Flow (vph)	52	0	354	0	0	553
Confl. Peds. (#/hr)				1		
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	
Actuated Green, G (s)	7.8		26.8			26.8
Effective Green, g (s)	7.8		26.8			26.8
Actuated g/C Ratio	0.17		0.60			0.60
Clearance Time (s)	5.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	269		1114			941
v/s Ratio Prot			0.19			
v/s Ratio Perm	c0.03					c0.35
v/c Ratio	0.19		0.32			0.59
Uniform Delay, d1	15.7		4.4			5.5
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.4		0.2			0.9
Delay (s)	16.1		4.6			6.4
Level of Service	B		A			A
Approach Delay (s)	16.1		4.6			6.4
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	44.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Future Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	138	759	16	0	662	12	57	28	8	53	8	167
Peak Hour Factor	0.73	0.91	0.50	0.92	0.96	0.50	0.80	0.43	0.50	0.71	0.38	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	422	1209	25	413	921	17	230	101	22	122	29	214
Arrive On Green	0.07	0.65	0.65	0.00	0.50	0.50	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1810	1854	39	1810	1860	34	733	554	121	267	161	1172
Grp Volume(v), veh/h	138	0	775	0	0	674	93	0	0	228	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1893	1810	0	1894	1408	0	0	1600	0	0
Q Serve(g_s), s	2.0	0.0	14.6	0.0	0.0	16.9	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	14.6	0.0	0.0	16.9	3.2	0.0	0.0	8.2	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.02	0.61		0.09	0.23		0.73
Lane Grp Cap(c), veh/h	422	0	1235	413	0	938	353	0	0	365	0	0
V/C Ratio(X)	0.33	0.00	0.63	0.00	0.00	0.72	0.26	0.00	0.00	0.62	0.00	0.00
Avail Cap(c_a), veh/h	436	0	1235	559	0	1094	561	0	0	596	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.8	0.0	6.2	0.0	0.0	12.0	21.4	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	1.0	0.0	0.0	1.9	0.4	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	4.2	0.0	0.0	6.4	1.1	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.2	0.0	7.2	0.0	0.0	13.9	21.8	0.0	0.0	25.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		913			674			93			228	
Approach Delay, s/veh		7.5			13.9			21.8			25.2	
Approach LOS		A			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.1	0.0	44.5		16.1	9.5	35.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		20.0	5.0	35.0		20.0	5.0	35.0				
Max Q Clear Time (g_c+I1), s		5.2	0.0	16.6		10.2	4.0	18.9				
Green Ext Time (p_c), s		0.4	0.0	5.5		0.9	0.0	4.3				

Intersection Summary												
HCM 6th Ctrl Delay			12.6									
HCM 6th LOS			B									

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	34	74	278	51	123	376
Future Volume (vph)	34	74	278	51	123	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0			5.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.91		0.98			1.00
Flt Protected	0.98		1.00			0.99
Satd. Flow (prot)	1698		1854			1877
Flt Permitted	0.89		1.00			0.82
Satd. Flow (perm)	1541		1854			1558
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	105%	105%	105%	105%	105%	105%
Adj. Flow (vph)	39	84	317	58	140	429
RTOR Reduction (vph)	70	0	10	0	0	0
Lane Group Flow (vph)	53	0	365	0	0	569
Confl. Peds. (#/hr)				1		
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	
Actuated Green, G (s)	7.8		27.4			27.4
Effective Green, g (s)	7.8		27.4			27.4
Actuated g/C Ratio	0.17		0.61			0.61
Clearance Time (s)	5.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	265		1123			944
v/s Ratio Prot			0.20			
v/s Ratio Perm	c0.03					c0.37
v/c Ratio	0.20		0.32			0.60
Uniform Delay, d1	16.0		4.4			5.5
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.4		0.2			1.1
Delay (s)	16.4		4.5			6.6
Level of Service	B		A			A
Approach Delay (s)	16.4		4.5			6.6
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	45.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Future Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	142	781	17	0	681	13	59	29	8	55	8	172
Peak Hour Factor	0.73	0.91	0.50	0.92	0.96	0.50	0.80	0.43	0.50	0.71	0.38	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	405	1203	26	394	915	17	231	102	22	124	29	219
Arrive On Green	0.07	0.65	0.65	0.00	0.49	0.49	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1810	1852	40	1810	1858	35	725	545	115	272	158	1173
Grp Volume(v), veh/h	142	0	798	0	0	694	96	0	0	235	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1893	1810	0	1894	1386	0	0	1603	0	0
Q Serve(g_s), s	2.1	0.0	15.6	0.0	0.0	17.9	0.0	0.0	0.0	5.1	0.0	0.0
Cycle Q Clear(g_c), s	2.1	0.0	15.6	0.0	0.0	17.9	3.4	0.0	0.0	8.4	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.02	0.61		0.08	0.23		0.73
Lane Grp Cap(c), veh/h	405	0	1229	394	0	933	354	0	0	372	0	0
V/C Ratio(X)	0.35	0.00	0.65	0.00	0.00	0.74	0.27	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	418	0	1229	539	0	1088	553	0	0	593	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.3	0.0	6.5	0.0	0.0	12.4	21.4	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	1.2	0.0	0.0	2.4	0.4	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	4.6	0.0	0.0	6.9	1.2	0.0	0.0	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.8	0.0	7.7	0.0	0.0	14.7	21.8	0.0	0.0	25.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		940			694			96			235	
Approach Delay, s/veh		8.0			14.7			21.8			25.3	
Approach LOS		A			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.4	0.0	44.5		16.4	9.5	35.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		20.0	5.0	35.0		20.0	5.0	35.0				
Max Q Clear Time (g_c+I1), s		5.4	0.0	17.6		10.4	4.1	19.9				
Green Ext Time (p_c), s		0.4	0.0	5.6		0.9	0.0	4.3				

Intersection Summary												
HCM 6th Ctrl Delay			13.1									
HCM 6th LOS			B									

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	34	74	278	51	123	376
Future Volume (vph)	34	74	278	51	123	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0			5.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.91		0.98			1.00
Flt Protected	0.98		1.00			0.99
Satd. Flow (prot)	1698		1854			1877
Flt Permitted	0.89		1.00			0.82
Satd. Flow (perm)	1541		1854			1550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	108%	108%	108%	108%	108%	108%
Adj. Flow (vph)	40	87	326	60	144	441
RTOR Reduction (vph)	72	0	11	0	0	0
Lane Group Flow (vph)	55	0	375	0	0	585
Confl. Peds. (#/hr)				1		
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8				6	
Actuated Green, G (s)	7.8		27.9			27.9
Effective Green, g (s)	7.8		27.9			27.9
Actuated g/C Ratio	0.17		0.61			0.61
Clearance Time (s)	5.0		5.0			5.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	263		1131			946
v/s Ratio Prot			0.20			
v/s Ratio Perm	c0.04					c0.38
v/c Ratio	0.21		0.33			0.62
Uniform Delay, d1	16.3		4.3			5.6
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.4		0.2			1.2
Delay (s)	16.7		4.5			6.8
Level of Service	B		A			A
Approach Delay (s)	16.7		4.5			6.8
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	45.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Future Volume (veh/h)	99	677	8	0	623	6	45	12	4	37	3	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	146	803	17	0	701	13	61	30	9	56	9	177
Peak Hour Factor	0.73	0.91	0.50	0.92	0.96	0.50	0.80	0.43	0.50	0.71	0.38	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	389	1198	25	376	911	17	230	102	23	124	31	223
Arrive On Green	0.07	0.65	0.65	0.00	0.49	0.49	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1810	1854	39	1810	1859	34	711	536	123	270	162	1175
Grp Volume(v), veh/h	146	0	820	0	0	714	100	0	0	242	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1893	1810	0	1894	1369	0	0	1607	0	0
Q Serve(g_s), s	2.2	0.0	16.5	0.0	0.0	18.9	0.0	0.0	0.0	5.1	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	16.5	0.0	0.0	18.9	3.6	0.0	0.0	8.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.02	0.61		0.09	0.23		0.73
Lane Grp Cap(c), veh/h	389	0	1224	376	0	928	355	0	0	378	0	0
V/C Ratio(X)	0.38	0.00	0.67	0.00	0.00	0.77	0.28	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	401	0	1224	520	0	1083	546	0	0	591	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.8	0.0	6.7	0.0	0.0	12.8	21.4	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	1.4	0.0	0.0	2.9	0.4	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	5.0	0.0	0.0	7.4	1.2	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.4	0.0	8.2	0.0	0.0	15.7	21.8	0.0	0.0	25.3	0.0	0.0
LnGrp LOS	B	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		966			714			100			242	
Approach Delay, s/veh		8.5			15.7			21.8			25.3	
Approach LOS		A			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.6	0.0	44.6		16.6	9.6	35.0				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		20.0	5.0	35.0		20.0	5.0	35.0				
Max Q Clear Time (g_c+I1), s		5.6	0.0	18.5		10.7	4.2	20.9				
Green Ext Time (p_c), s		0.4	0.0	5.7		0.9	0.0	4.3				

Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	5.9
Intersection LOS	A

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	540	283	8	65
Demand Flow Rate, veh/h	551	288	8	66
Vehicles Circulating, veh/h	25	111	527	276
Vehicles Exiting, veh/h	317	424	49	123
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.7	5.1	4.6	4.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	551	288	8	66
Cap Entry Lane, veh/h	1345	1232	806	1041
Entry HV Adj Factor	0.980	0.982	0.990	0.982
Flow Entry, veh/h	540	283	8	65
Cap Entry, veh/h	1318	1210	798	1023
V/C Ratio	0.410	0.234	0.010	0.063
Control Delay, s/veh	6.7	5.1	4.6	4.1
LOS	A	A	A	A
95th %tile Queue, veh	2	1	0	0

Intersection	
Intersection Delay, s/veh	6.0
Intersection LOS	A

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	551	290	8	66
Demand Flow Rate, veh/h	562	295	8	67
Vehicles Circulating, veh/h	25	113	537	282
Vehicles Exiting, veh/h	324	432	50	126
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.8	5.1	4.7	4.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	562	295	8	67
Cap Entry Lane, veh/h	1345	1230	798	1035
Entry HV Adj Factor	0.980	0.982	0.990	0.982
Flow Entry, veh/h	551	290	8	66
Cap Entry, veh/h	1318	1207	790	1017
V/C Ratio	0.418	0.240	0.010	0.065
Control Delay, s/veh	6.8	5.1	4.7	4.1
LOS	A	A	A	A
95th %tile Queue, veh	2	1	0	0

Intersection	
Intersection Delay, s/veh	6.2
Intersection LOS	A

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	567	297	9	69
Demand Flow Rate, veh/h	578	303	9	70
Vehicles Circulating, veh/h	26	117	553	290
Vehicles Exiting, veh/h	334	445	51	130
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	5.2	4.7	4.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	578	303	9	70
Cap Entry Lane, veh/h	1344	1225	785	1027
Entry HV Adj Factor	0.980	0.982	0.989	0.983
Flow Entry, veh/h	567	297	9	69
Cap Entry, veh/h	1317	1202	776	1009
V/C Ratio	0.430	0.247	0.011	0.068
Control Delay, s/veh	6.9	5.2	4.7	4.2
LOS	A	A	A	A
95th %tile Queue, veh	2	1	0	0

Intersection	
Intersection Delay, s/veh	6.3
Intersection LOS	A

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	583	306	10	70
Demand Flow Rate, veh/h	595	312	10	71
Vehicles Circulating, veh/h	27	121	569	300
Vehicles Exiting, veh/h	344	458	53	133
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.1	5.3	4.8	4.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	595	312	10	71
Cap Entry Lane, veh/h	1342	1220	772	1016
Entry HV Adj Factor	0.980	0.982	0.990	0.983
Flow Entry, veh/h	583	306	10	70
Cap Entry, veh/h	1316	1197	765	999
V/C Ratio	0.443	0.256	0.013	0.070
Control Delay, s/veh	7.1	5.3	4.8	4.2
LOS	A	A	A	A
95th %tile Queue, veh	2	1	0	0

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	896	661	92	224
Demand Flow Rate, veh/h	896	661	92	224
Vehicles Circulating, veh/h	60	220	932	705
Vehicles Exiting, veh/h	869	804	24	176
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.2	11.0	9.0	9.7
Approach LOS	B	B	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	896	661	92	224
Cap Entry Lane, veh/h	1298	1103	533	672
Entry HV Adj Factor	1.000	1.000	1.000	1.000
Flow Entry, veh/h	896	661	92	224
Cap Entry, veh/h	1298	1103	533	672
V/C Ratio	0.690	0.600	0.172	0.333
Control Delay, s/veh	12.2	11.0	9.0	9.7
LOS	B	B	A	A
95th %tile Queue, veh	6	4	1	1

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	913	674	93	228
Demand Flow Rate, veh/h	913	674	93	228
Vehicles Circulating, veh/h	61	223	950	719
Vehicles Exiting, veh/h	886	820	24	178
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.6	11.4	9.2	10.0
Approach LOS	B	B	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	913	674	93	228
Cap Entry Lane, veh/h	1297	1099	524	663
Entry HV Adj Factor	1.000	1.000	1.000	1.000
Flow Entry, veh/h	913	674	93	228
Cap Entry, veh/h	1297	1099	524	663
V/C Ratio	0.704	0.613	0.178	0.344
Control Delay, s/veh	12.6	11.4	9.2	10.0
LOS	B	B	A	A
95th %tile Queue, veh	6	4	1	2

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	940	694	96	235
Demand Flow Rate, veh/h	940	694	96	235
Vehicles Circulating, veh/h	63	230	978	740
Vehicles Exiting, veh/h	912	844	25	184
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.4	12.1	9.7	10.5
Approach LOS	B	B	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	940	694	96	235
Cap Entry Lane, veh/h	1294	1091	509	649
Entry HV Adj Factor	1.000	1.000	1.000	1.000
Flow Entry, veh/h	940	694	96	235
Cap Entry, veh/h	1294	1091	509	649
V/C Ratio	0.726	0.636	0.189	0.362
Control Delay, s/veh	13.4	12.1	9.7	10.5
LOS	B	B	A	B
95th %tile Queue, veh	7	5	1	2

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Approach	SE	NW	NE	SW
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	966	714	100	242
Demand Flow Rate, veh/h	966	714	100	242
Vehicles Circulating, veh/h	65	237	1005	762
Vehicles Exiting, veh/h	939	868	26	189
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.3	12.8	10.1	11.0
Approach LOS	B	B	B	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	966	714	100	242
Cap Entry Lane, veh/h	1291	1084	495	634
Entry HV Adj Factor	1.000	1.000	1.000	1.000
Flow Entry, veh/h	966	714	100	242
Cap Entry, veh/h	1291	1084	495	634
V/C Ratio	0.748	0.659	0.202	0.381
Control Delay, s/veh	14.3	12.8	10.1	11.0
LOS	B	B	B	B
95th %tile Queue, veh	8	5	1	2

APPENDIX C

CRASH ANALYSIS

CRASH SUMMARY TABLE

Intersection / Segment	Right Angle	Right Turn	Left Turn	Rear End	Sideswipe	Head On	Overtake	Other	Unknown	Total Accidents	Fatality	Personal Injury	Property Damage Only	Non-Reportable
1. Sand Creek Road / Watervliet Shaker Road	5	2	2	5	0	0	1	3	0	**18**	0	2	16	0
2. Sand Creek Road / South Family Drive	2	0	1	1	0	0	1	0	0	**5**	0	2	3	0
3. Sand Creek Road / Shaker Run	0	0	0	2	0	0	0	2	0	**4**	0	0	4	0
4. Sand Creek Road / Hunting Road	3	0	1	1	0	0	0	1	0	**6**	0	0	6	0
5. Sand Creek Road / Peter Drive	0	0	0	3	0	0	0	1	0	**4**	0	0	4	0
6. Sand Creek Road / Delafield Drive	0	0	0	1	0	0	0	0	0	**1**	0	1	0	0
7. Sand Creek Road / Mordella Road	0	1	0	1	0	0	0	0	0	**2**	0	0	2	0
8. Sand Creek Road / Terry Court	0	0	0	2	1	0	0	1	0	**4**	0	2	2	0
9. Sand Creek Road / Myers Court	1	0	0	1	0	0	0	1	0	**3**	0	1	2	0
10. Sand Creek Road / Space Boulevard	0	0	0	0	0	0	0	1	0	**1**	0	0	1	0
11. Sand Creek Road / Sunset Boulevard	0	0	0	2	0	0	0	1	0	**3**	1	1	1	0
12. Sand Creek Road / Jo Ann Court	0	0	0	3	0	0	0	0	0	**3**	0	1	2	0
13. Sand Creek Road / Jodiro Lane	0	0	0	0	0	0	0	0	0	**0**	0	0	0	0
14. Sand Creek Road / Computer Drive South	2	0	0	11	1	0	0	3	0	**17**	0	6	11	0
15. Sand Creek Road / Wolf Road	6	1	6	30	1	1	3	10	3	**61**	0	19	42	0
Sand Creek Road (Segment)	8	1	4	12	3	0	3	18	0	**49**	0	11	38	0
Totals	**27**	**5**	**14**	**75**	**6**	**1**	**8**	**42**	**3**	**181**	**1**	**46**	**134**	**0**

ACCIDENT SUMMARY TABLE

M.J. Engineering & Land Surveying, P.C.
1533 Crescent Road - Clifton Park, N.Y. 12065
Phone: (518) 371-0799
Fax: (518) 371-0822

Project	**Sand Creek Road Complete Streets Study**		
MJ No.	1820	P.I.N.	
Sheet No.	1	of	1
Calculated By:	CKD	Date:	April 17, 2023
Checked By:	MEB	Date:	April 17, 2023

APPENDIX A - Accident Location Diagram and Rate Calculations

Accidents occuring between August 1, 2017 and July 31, 2022

Accident Rate Calculations - SEGMENTS

$$\text{Segment Accident Rate (acc/MVM)} = \frac{\text{1,000,000 x No. Accidents Per Year}}{\text{365 x AADT x Segment length (miles)}}$$

Description: ***Sand Creek Road***

No. Accidents Per Year:	9.80
Sand Creek Road AADT (2023):	10,114
Segment Length (mi):	1.890

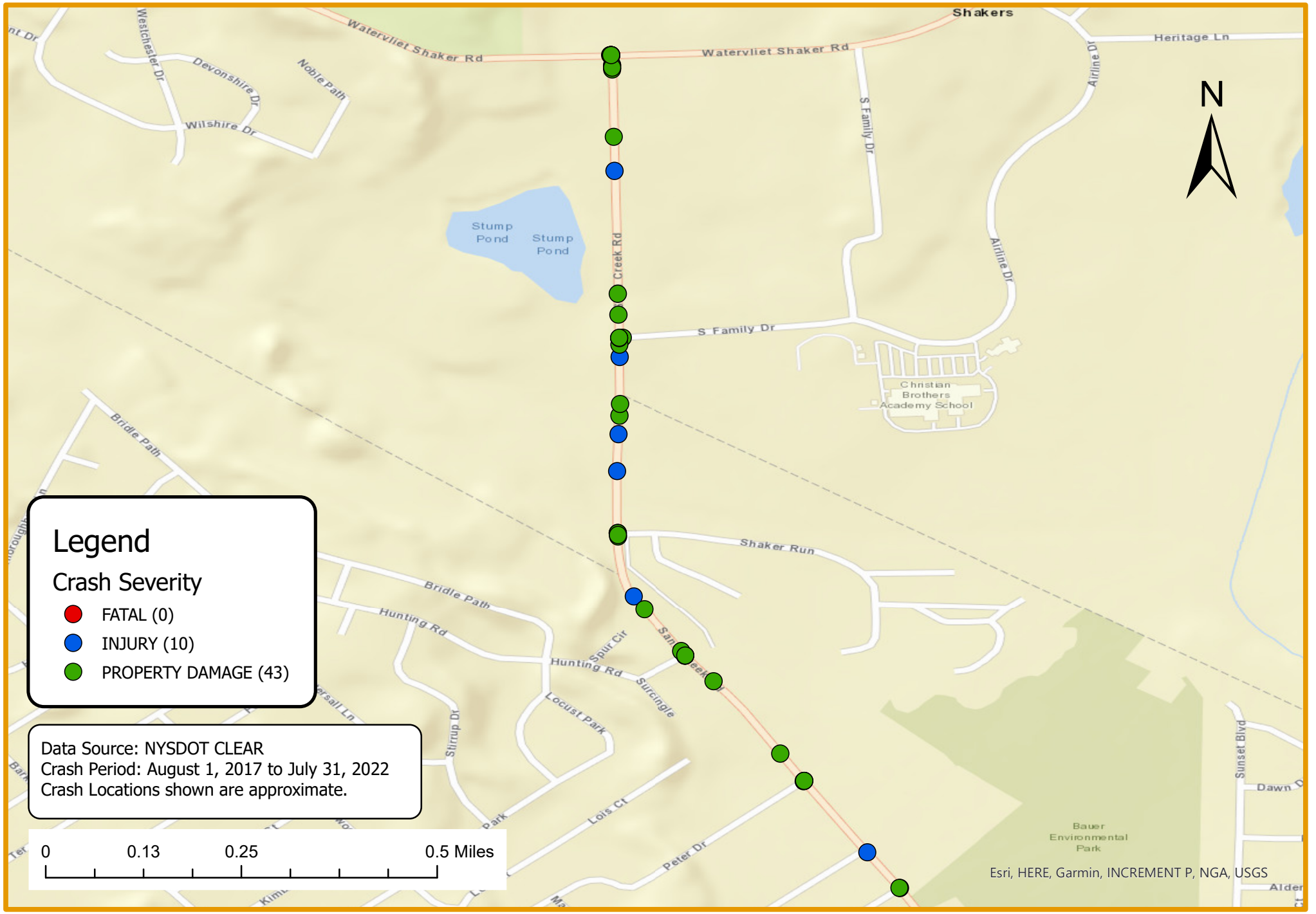
Segment Accident Rate (acc/MVM) = 1.40

(Statewide average = 2.32 acc/MVM)

CAPITAL REGION Transportation Council

Sand Creek Road Complete Streets Concept Study
Village of Colonie, Albany County, NY

Engineering and Land Surveying, P.C.



Legend

Crash Severity

- FATAL (0)
- INJURY (10)
- PROPERTY DAMAGE (43)

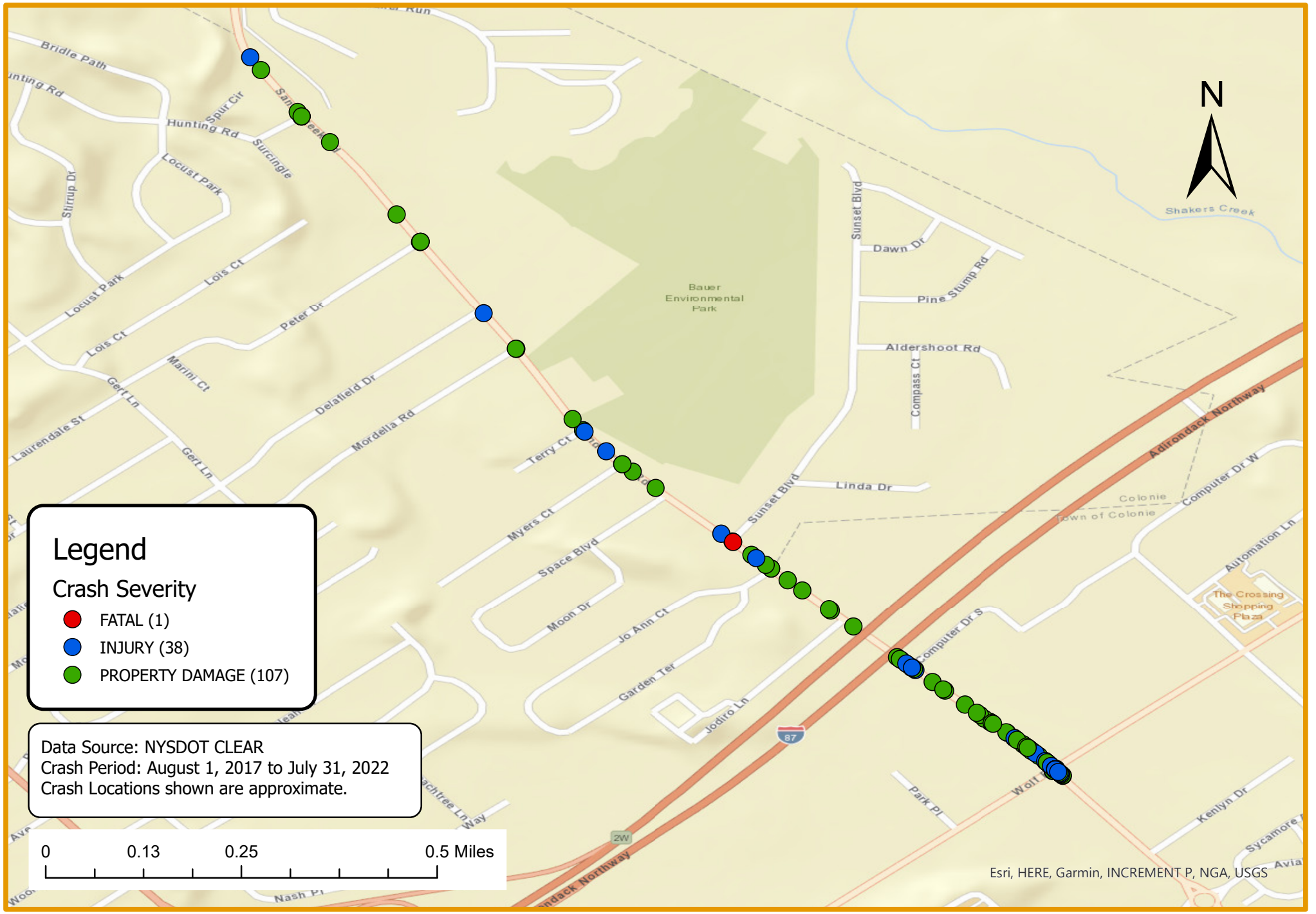
Data Source: NYSDOT CLEAR
Crash Period: August 1, 2017 to July 31, 2022
Crash Locations shown are approximate.

0 0.13 0.25 0.5 Miles

CAPITAL REGION Transportation Council

Sand Creek Road Complete Streets Concept Study
Village of Colonie, Albany County, NY

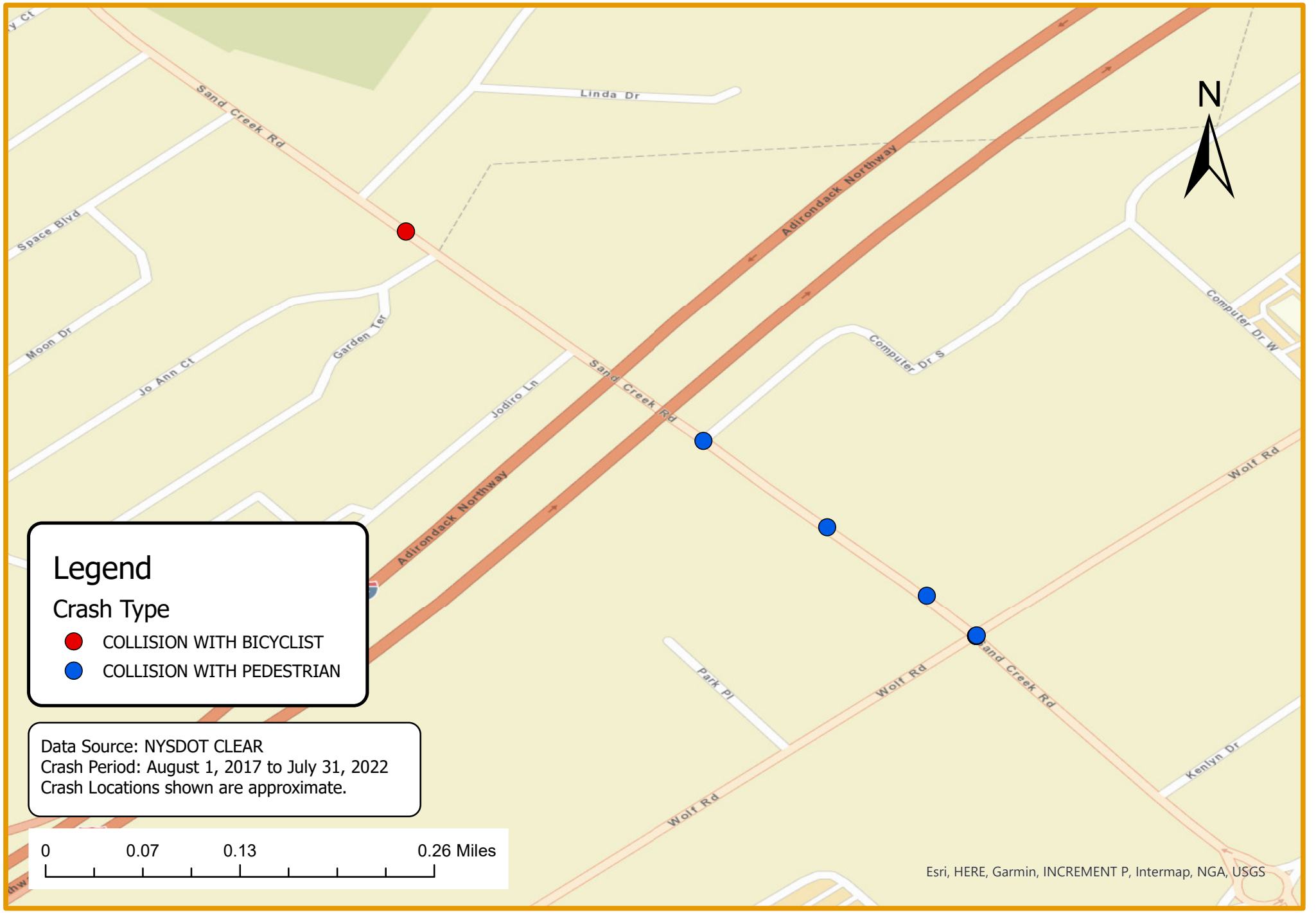
Engineering and Land Surveying, P.C.



CAPITAL REGION Transportation Council

Sand Creek Road Complete Streets Concept Study
Village of Colonie, Albany County, NY

Engineering and Land Surveying, P.C.



APPENDIX D

ENVIRONMENTAL INFORMATION

Environmental Mitigation

Introduction

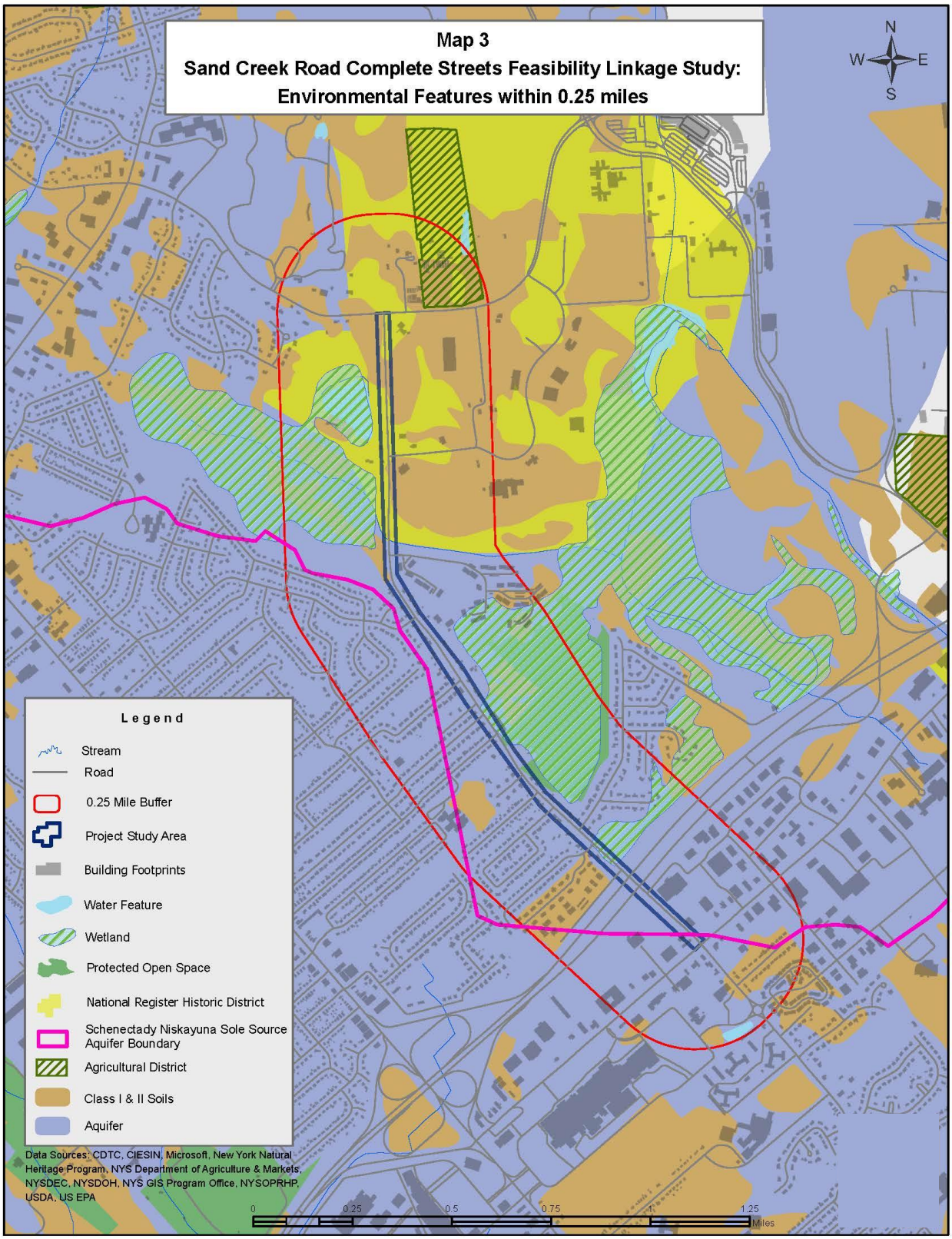
Per federal requirements, the Capital Region Transportation Council undertakes an Environmental Features Scan in all Community and Transportation Linkage Planning Program (Linkage Program) initiatives. The Environmental Features Scan identifies the location of environmentally sensitive features, both natural and cultural in relation to project study areas. Although the conceptual planning stage is too early in the transportation planning process to identify specific potential impacts to environmentally sensitive features, the early identification of environmentally sensitive features is an important part of the environmental mitigation process. It should also be noted here that as specific projects advance through the project development process, the applicable NEPA and SEQRA regulations requiring potential environmental impact identification, analysis and mitigation will be followed by the implementing agencies as required by federal and state law. The Transportation Council is not an implementing agency.

Data and Analysis

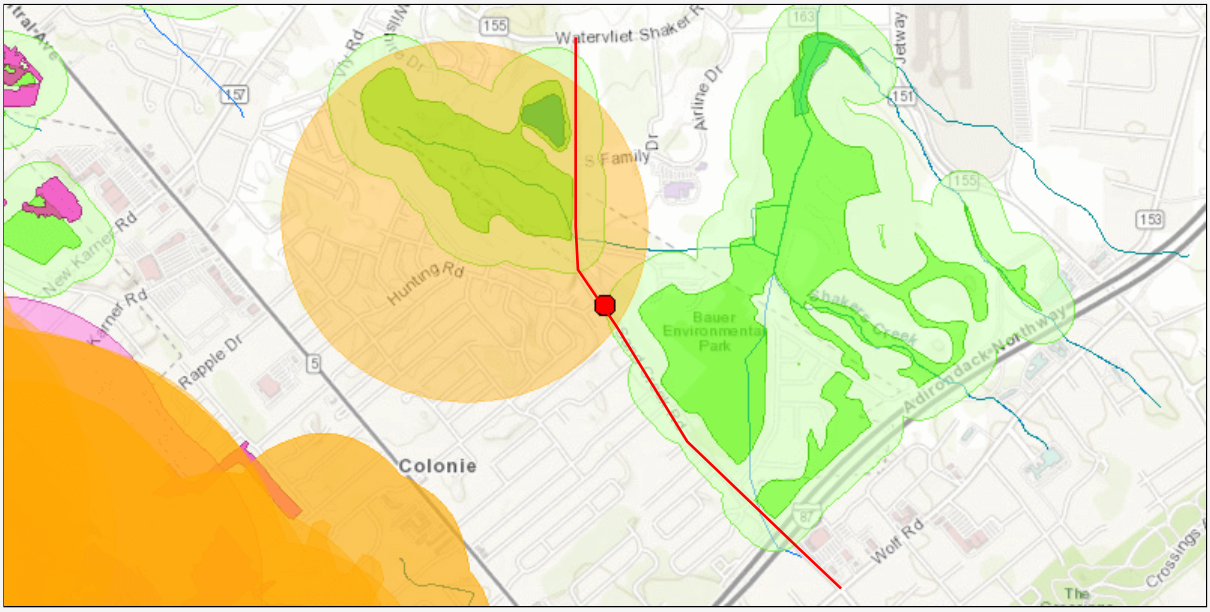
The Transportation Council staff relies on data from several state and federal agencies to maintain an updated map-based inventory of both natural and cultural resources. The following features are mapped and reviewed for their presence within each study area as well as within a quarter mile buffer of the defined study area boundary.

- sole source aquifers
- aquifers
- reservoirs
- water features (streams, lakes, rivers, and ponds)
- wetlands
- watersheds
- 100-year flood plains
- rare animal populations
- rare plant populations
- significant ecological sites
- significant ecological communities
- state historic sites
- national historic sites
- national historic register districts
- national historic register properties
- federal parks and lands
- state parks and forests
- state unique areas
- state wildlife management areas
- county forests and preserves
- municipal parks and lands
- land trust sites
- NYS DEC lands
- Adirondack Park
- agricultural districts
- NY Protected Lands
- natural community habitats
- rare plant habitats
- Class I & II soils

Map 3 provides an overview of the environmentally sensitive (cultural and natural) features located within the Village of Colonie Sand Creek Road Complete Streets Concept Study study area as well as within a quarter mile buffer of the defined study area boundary.


Map 3
Sand Creek Road Complete Streets Feasibility Linkage Study:
Environmental Features within 0.25 miles
N
W
E
S
Legend
Stream
Road
0.25 Mile Buffer
Project Study Area
Building Footprints
Water Feature
Wetland
Protected Open Space
National Register Historic District
Schenectady Niskayuna Sole Source Aquifer Boundary
Agricultural District
Class I & II Soils
Aquifer
Data Sources: CDTC, CIESIN, Microsoft, New York Natural Heritage Program, NYS Department of Agriculture & Markets, NYSDEC, NYSDOH, NYS GIS Program Office, NYSOPRHP, USDA, US EPA
0
0.25
0.5
0.75
1
1.25
Miles

Environmental Resource Mapper



The coordinates of the point you clicked on are:

UTM 18	**Easting:**	596212.7517502375	**Northing:**	4731228.895332612
Longitude/Latitude	**Longitude:**	-73.8247839205516	**Latitude:**	42.727548991798386

The approximate address of the point you clicked on is:
581 Sand Creek Rd, Albany, New York, 12205

County: Albany
Town: Colonie
Village: Colonie
USGS Quad: ALBANY

Freshwater Wetlands Checkzone

This location is in the vicinity of one or more Regulated Freshwater Wetlands.

Rare Plants and Rare Animals

This location is in the vicinity of Animals Listed as Endangered or Threatened - Contact NYSDEC Regional Office

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

Disclaimer: If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.

APPENDIX E

ENVIRONMENTAL JUSTICE AND LIMITED ENGLISH PROFICIENCY

Environmental Justice

Introduction

Per federal requirements, the Capital Region Transportation Council undertakes an analysis of Environmental Justice in all Community and Transportation Linkage Planning Program (Linkage Program) initiatives to evaluate if transportation concepts and recommendations impact Environmental Justice populations. Impacts may be defined as those that are positive, potentially negative, and neutral as described in the Transportation Council's Environmental Justice Analysis document, dated March 2020. The goal of this analysis is to ensure that both the positive and negative impacts of transportation planning conducted by the Transportation Council, and its member agencies are fairly distributed and that defined Environmental Justice populations do not bear disproportionately high and adverse effects.

This goal has been set to:

- Ensure the Transportation Council's compliance with Title VI of the Civil Rights Act of 1964, which states that "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance,"
- Assist the United State Department of Transportation's agencies in complying with Executive Order 12898 stating, "Each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."
- Address FTA C 4702.1B TITLE VI REQUIREMENTS AND GUIDELINES FOR FEDERAL TRANSIT ADMINISTRATION RECIPIENTS, which includes requirements for MPOs that are some form of a recipient of FTA.

Data and Analysis

The Transportation Council staff created demographic parameters using data from the 2013-2017 American Community Survey (ACS). Threshold values were assigned at the census tract level to identify geographic areas with significant populations of minority or low-income persons. Tracts with higher than the regional average percentage of low-income or minority residents are identified as Environmental Justice populations.

Minority residents are defined as those who identify themselves as anything but white only, not Hispanic or Latino. Low-income residents are defined as those whose household income falls below the poverty line.

The transportation patterns by race/ethnicity, income, age, English ability, disability status, and sex in the Transportation Council's planning area are depicted in table III-2 through III-7, using the commute to work as a proxy for all travel. The greatest difference between the defined minority and non-minority population is in the Drive Alone and Transit categories: The minority population is almost 20% less likely to drive alone, 11% more likely to take transit, and is also more likely to walk and carpool. The defined low-income population and the non-low-income population follow the same trend, with the low-income

population 20% less likely to drive alone, 10% more likely to commute via transit, and more likely to walk and carpool. Other categories showed a lesser difference.

Table 1: Commute Mode by Race/Ethnicity

By Race/Ethnicity	Drive Alone	Carpool	Transit	Other	Walk	Work at Home
All Workers (16+)	80.0%	7.6%	3.7%	1.2%	3.4%	4.1%
White Alone Not Hispanic or Latino	83.3%	6.9%	1.8%	1.0%	2.7%	4.2%
Minority	**63.8%**	11.0%	**12.9%**	2.0%	7.0%	3.3%

Table 2: Commute Mode by Income

By Income	Drive Alone	Carpool	Transit	Other	Walk	Work at Home
At/Above 100% Poverty Level	81.8%	7.4%	3.2%	1.1%	2.6%	3.9%
Below 100% Poverty Level	**61.3%**	11.3%	**13.2%**	2.4%	8.8%	3.0%

Table 3: Commute Mode By Age

By Age	Drive Alone	Carpool	Transit	Other	Walk	Work at Home
16-19 Years	**59.9%**	**16.2%**	4.3%	2.9%	**13.0%**	3.8%
20-64 Years	80.8%	7.4%	3.7%	1.1%	3.1%	3.9%
65+ years	80.7%	5.0%	2.9%	1.3%	2.5%	7.6%

Table 4: Commute Mode by English Ability

By English Ability	Drive Alone	Carpool	Transit	Other	Walk	Work at Home
Speak English Very Well	70.3%	11.7%	4.8%	1.8%	7.0%	4.4%
Speak English Less than Very Well	65.6%	14.3%	8.3%	1.2%	7.4%	3.2%

Table 5: Commute Mode by Disability

By Disability Status*	Drive Alone	Carpool	Transit	Other	Walk	Work at Home
Without any Disability	80.7%	7.4%	3.5%	1.1%	3.4%	4.0%
With a Disability	**71.1%**	11.2%	6.7%	2.4%	4.3%	4.3%

Table 6: Commute Mode by Sex

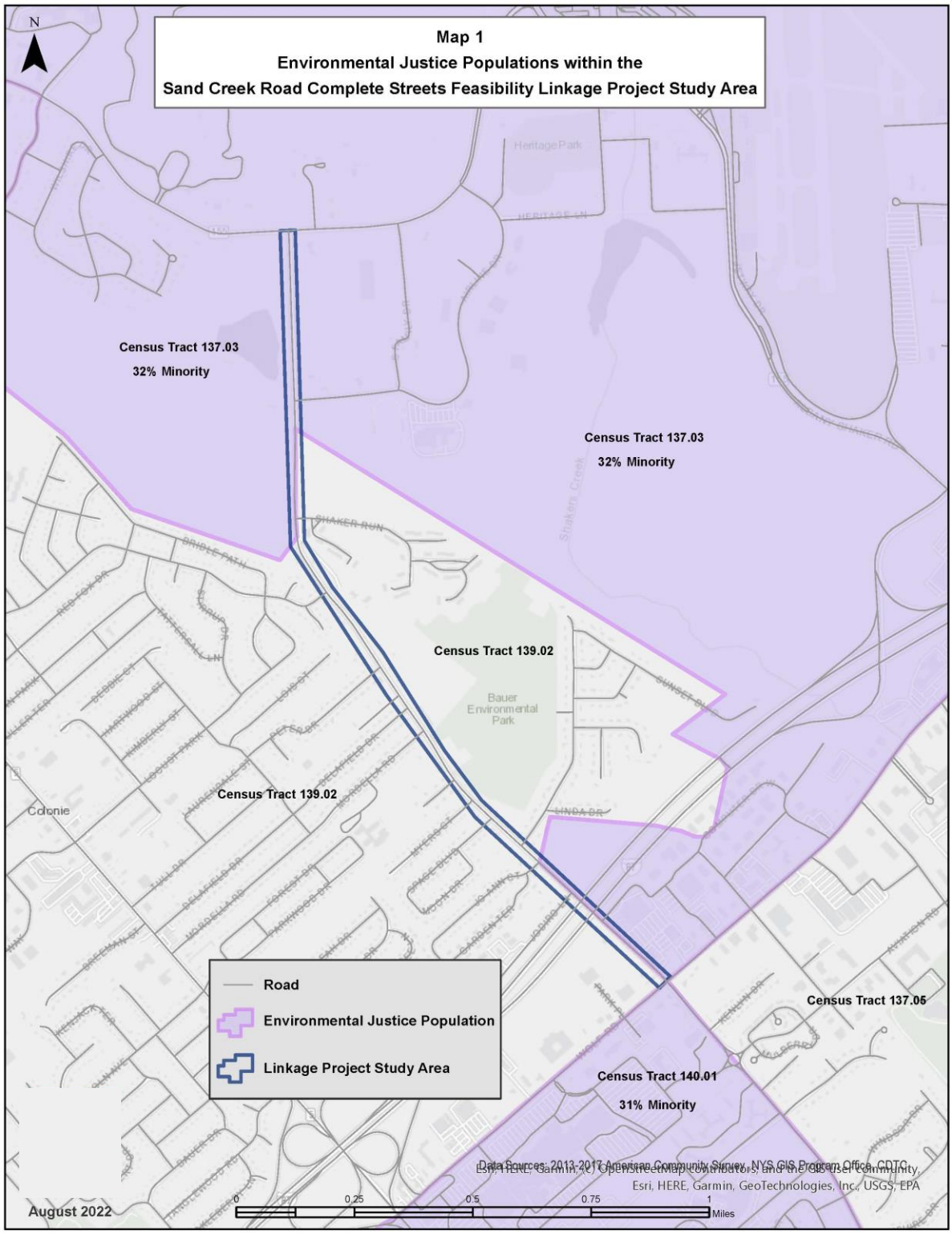
By Sex*	Drive Alone	Carpool	Transit	Other	Walk	Work at Home
Male	80.1%	7.5%	3.4%	1.5%	3.7%	3.9%
Female	80.2%	7.8%	3.9%	0.9%	3.1%	4.3%

*Data is from the American Community Survey 2017 5-year estimates, tables S0802, B08105H, B08101, B08122, S0801, B08113, and S1811. Other includes taxi, motorcycle, and bicycle.

*Data for sex and disability status include all people in Albany, Rensselaer, Saratoga, and Schenectady Counties.

Map 1 provides an overview of the Village of Colonie Sand Creek Road Complete Streets Concept Study study area. The Village of Colonie Sand Creek Road Complete Streets Concept Study is included in the Environmental Justice area based on one study area Census Tract having a higher than regional average percentage of minority residents and one Census Tract adjacent to the study area having a higher than regional average percentage of minority residents.

The Capital Region Indicators website, maintained by the Capital District Regional Planning Commission (CDRPC), provides information by race and ethnicity (White, Black, or African American, Asian, and Hispanic or Latino) that may be useful to further understand the population within a study area. Since this document is a regional analysis performed at the census tract level, small scale populations may be overlooked. It therefore may still be useful to scan the project area, particularly if the project area is small, as minority or low-income populations may form a significant portion of the study area residents but not be reflected in the larger census tract areas. In addition, the project should look for worksites and other generators where minority and/or low-income people are over-represented, as the data only captures the residential population.


N
Map 1
Environmental Justice Populations within the
Sand Creek Road Complete Streets Feasibility Linkage Project Study Area
Census Tract 137.03
32% Minority
Census Tract 137.03
32% Minority
Census Tract 139.02
Census Tract 139.02
Census Tract 137.05
Census Tract 140.01
31% Minority
Road
Environmental Justice Population
Linkage Project Study Area
Data Sources: 2013-2017 American Community Survey, NYS GIS Program Office, CDTC
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community,
Esri, HERE, Garmin, GeoTechnologies, Inc, USGS, EPA
0
0.25
0.5
0.75
1
Miles
August 2022

Limited English Proficiency

Introduction

Inclusive public participation is a priority consideration in Transportation Council-sponsored plans, studies, and programs. Understanding and involvement are encouraged throughout the process. The Transportation Council encourages input from all stakeholders and ensures that all segments of the population, including those that do not speak English as their primary language and who have a limited ability to speak, read, write, or understand English, have the opportunity to be involved in the transportation planning process.

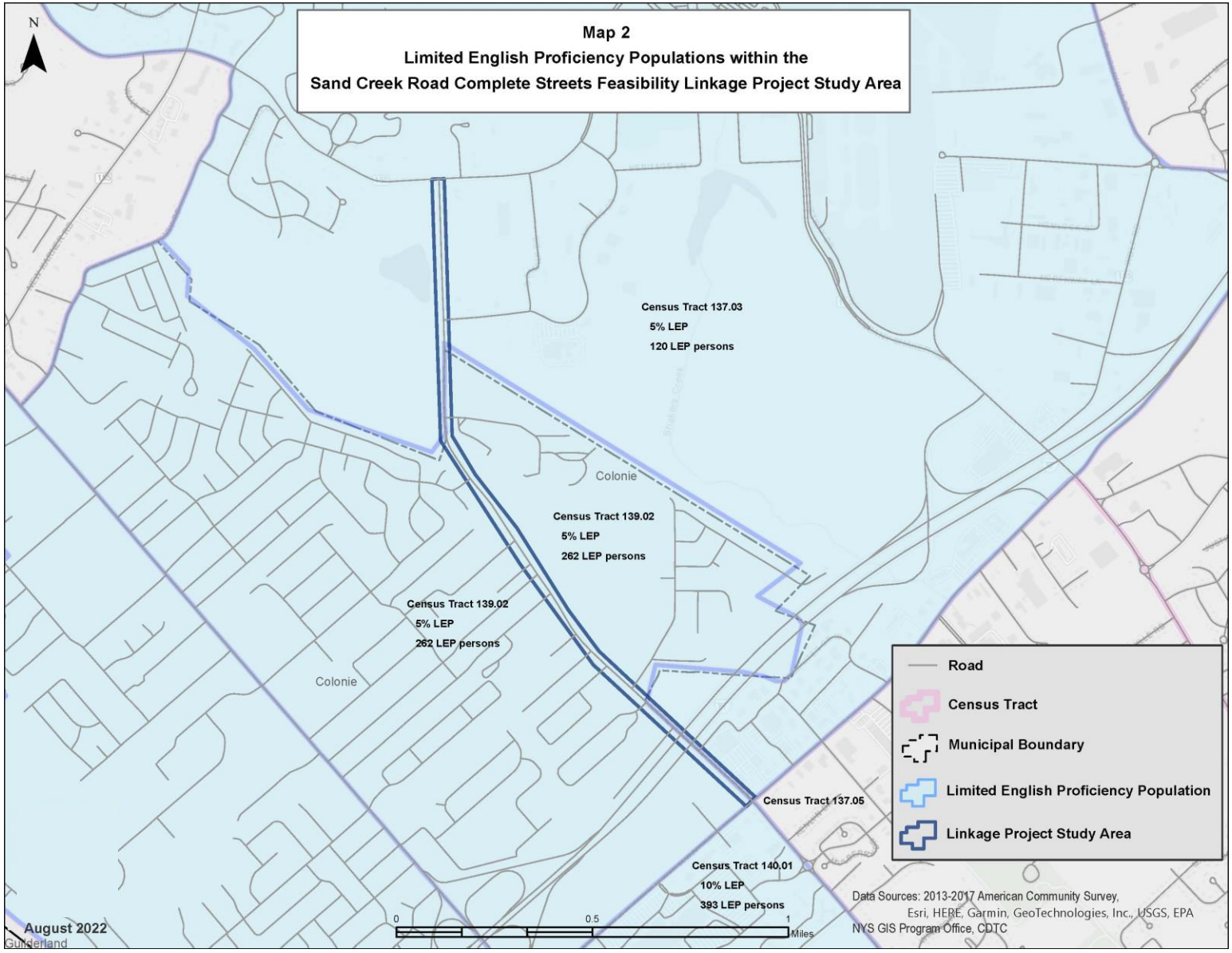
Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency" (LEP) was signed in 2000 to improve access to federally assisted programs and activities for persons who, as a result of national origin, are limited in their English proficiency. To ensure that programs and activities normally provided in English are accessible to LEP persons and thus do not discriminate on the basis of national origin in violation of Title VI of the Civil Rights Act of 1964, recipients must take reasonable steps to ensure meaningful access to their programs and activities by LEP persons.

Data and Analysis

According to 2016-2020 data from the American Community Survey (ACS), 3.4 percent of the region's population 5 years of age and older, or over 25,000 people, reported that they do not speak English "very well". USDOT guidance sets a written translation threshold at 5% of those eligible to be served or 1,000 people, whichever is less. Thus, any census tract with a rate of 5% or higher of LEP persons or 1,000 LEP persons are identified as LEP census tracts.

The Transportation Council project manager should seek further data sources or community knowledge to indicate which languages are present. If any of them constitute 1,000 people or 5% of the total study area population, whichever is less, key documents will be translated into those languages on request and requested oral interpreting services will be provided when necessary and possible. In addition, initial outreach materials should be translated into languages meeting the above criteria.

Map 2 provides an overview of the Village of Colonie Sand Creek Road Complete Streets Concept Study study area. The Village of Colonie Sand Creek Road Complete Streets Concept study area is included in the Limited English Proficiency area based on two of the study area Census Tracts having 5% or more or at least 1000 limited English proficient residents.


Map 2
Limited English Proficiency Populations within the
Sand Creek Road Complete Streets Feasibility Linkage Project Study Area
N
Census Tract 137.03
5% LEP
120 LEP persons
Colonie
Census Tract 139.02
5% LEP
262 LEP persons
Census Tract 139.02
5% LEP
262 LEP persons
Colonie
Census Tract 137.05
Census Tract 140.01
10% LEP
393 LEP persons
Road
Census Tract
Municipal Boundary
Limited English Proficiency Population
Linkage Project Study Area
0
0.5
1
Miles
August 2022
Guilderland
Data Sources: 2013-2017 American Community Survey,
Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA
NYS GIS Program Office, CDTC

If a language group meets the 5% or 1,000 people thresholds, whichever is less, the following will apply. The Transportation Council's Limited English Proficiency Plan can be viewed at: https://www.cdtcmpo.org/images/othercdtcproducts/2020_Limited_English_Proficiency_Plan.pdf

- Identifying Individuals who May Need Language Assistance: The Transportation Council staff will use Language Identification Flashcards when encountering a LEP individual to identify that person's primary language. The Language Identification Flashcards are free and available online at http://www.lep.gov/ISpeakCards2004.pdf and will be made available at public meetings. Once a LEP person's primary language is identified by means of the flashcards, the Transportation Council staff will assess the feasibility of providing translation and/or interpretation assistance.
- Translation of Written Documents: Written executive summaries of studies conducted in geographic subareas where a language within the LEP population constitutes 1,000 people or 5% of the subarea will be translated into that language upon request and posted on-line.
- Oral Interpretation: Upon at least 48 hours request of LEP individuals speaking languages that meet the threshold, the Transportation Council will provide interpreting services at meetings, in person if possible. If formal interpretation is required and an interpreter is not available, the Transportation Council staff will use the telephone interpreter service, Language Line, at 1-800-752-6096.

The Transportation Council staff will use a free online translation service for all other requests for translations of documents. The Transportation Council website may be translated into many different languages using free online translation services such as Google Translate. In this way, meeting agendas and minutes, notices of official actions, public comment requests, and other documents may be translated.

The Capital Region Indicators website, maintained by CDRPC, provides information on language spoken at home by ability to speak English that may be useful to further understand the population within a study area. Where the data shows a significant population speaking a broad language group, further investigation may be necessary. School districts maintain language data for attendees who do not speak English well and this information will generally reflect the children's families. There may be nearby religious institutions and local businesses that cater to people speaking a particular language or language group and could provide insight on the size of the population as well as appropriate ways to engage with them.

Since this document is a regional analysis performed at the census tract level, small scale populations may be overlooked. It therefore may still be useful to scan the project area, particularly if the project area is small, as people who don't speak English very well may form a significant portion of the study area residents but not be reflected in the larger census tract areas. In addition, the project should look for worksites and other generators where people who don't speak English very well are over-represented, as the data only captures the residential population.

EJSCREEN ACS Summary Report

Location: User-specified linear location
Ring (buffer): .25-miles radius
Description: Sand Creek Road Linkage

Summary of ACS Estimates	2016 - 2020
Population	2,324
Population Density (per sq. mile)	2,541
People of Color Population	415
% People of Color Population	18%
Households	810
Housing Units	853
Housing Units Built Before 1950	82
Per Capita Income	36,505
Land Area (sq. miles) (Source: SF1)	0.91
% Land Area	100%
Water Area (sq. miles) (Source: SF1)	0.00
% Water Area	0%

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	2,324	100%	814
Population Reporting One Race	2,235	96%	1,200
White	1,909	82%	821
Black	28	1%	138
American Indian	0	0%	12
Asian	292	13%	170
Pacific Islander	0	0%	12
Some Other Race	6	0%	47
Population Reporting Two or More Races	89	4%	132
Total Hispanic Population	14	1%	119
Total Non-Hispanic Population	2,310		
White Alone	1,909	82%	821
Black Alone	15	1%	138
American Indian Alone	0	0%	12
Non-Hispanic Asian Alone	292	13%	170
Pacific Islander Alone	0	0%	12
Other Race Alone	5	0%	40
Two or More Races Alone	89	4%	126
Population by Sex			
Male	1,219	52%	629
Female	1,105	48%	252
Population by Age			
Age 0-4	127	5%	73
Age 0-17	575	25%	257
Age 18+	1,749	75%	365
Age 65+	378	16%	122

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2016 - 2020 .

EJSCREEN ACS Summary Report

Location: User-specified linear location
Ring (buffer): .25-miles radius
Description: Sand Creek Road Linkage

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population 25+ by Educational Attainment			
Total	1,593	100%	376
Less than 9th Grade	87	5%	63
9th - 12th Grade, No Diploma	115	7%	98
High School Graduate	389	24%	148
Some College, No Degree	256	16%	146
Associate Degree	229	14%	225
Bachelor's Degree or more	517	32%	178
Population Age 5+ Years by Ability to Speak English			
Total	2,197	100%	809
Speak only English	1,800	82%	650
Non-English at Home[1+2+3+4]	397	18%	150
[1]Speak English "very well"	232	11%	141
[2]Speak English "well"	44	2%	48
[3]Speak English "not well"	116	5%	92
[4]Speak English "not at all"	5	0%	38
[3+4]Speak English "less than well"	121	6%	92
[2+3+4]Speak English "less than very well"	165	7%	96
Linguistically Isolated Households*			
Total	38	100%	30
Speak Spanish	4	11%	12
Speak Other Indo-European Languages	7	18%	18
Speak Asian-Pacific Island Languages	27	71%	27
Speak Other Languages	0	0%	12
Households by Household Income			
Household Income Base	810	100%	143
< $15,000	36	4%	56
$15,000 - $25,000	9	1%	67
$25,000 - $50,000	62	8%	46
$50,000 - $75,000	126	16%	70
$75,000 +	577	71%	169
Occupied Housing Units by Tenure			
Total	810	100%	143
Owner Occupied	628	78%	145
Renter Occupied	182	22%	89
Employed Population Age 16+ Years			
Total	1,906	100%	669
In Labor Force	1,042	55%	344
Civilian Unemployed in Labor Force	0	0%	30
Not In Labor Force	865	45%	367

Data Note: Datail may not sum to totals due to rounding. Hispanic population can be of anyrace.
N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS)
*Households in which no one 14 and over speaks English "very well" or speaks English only.

EJSCREEN ACS Summary Report

Location: User-specified linear location
Ring (buffer): .25-miles radius
Description: Sand Creek Road Linkage

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population by Language Spoken at Home*			
Total (persons age 5 and above)	1,456	100%	403
English	1,253	86%	557
Spanish	3	0%	18
French, Haitian, or Cajun	0	0%	181
German or other West Germanic	7	1%	38
Russian, Polish, or Other Slavic	16	1%	77
Other Indo-European	75	5%	206
Korean	11	1%	64
Chinese (including Mandarin, Cantonese)	44	3%	61
Vietnamese	27	2%	75
Tagalog (including Filipino)	3	0%	18
Other Asian and Pacific Island	16	1%	88
Arabic	0	0%	17
Other and Unspecified	0	0%	3
Total Non-English	203	14%	688

Data Note: Detail may not sum to totals due to rounding. Hispanic popultion can be of any race.
N/A meansnot available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2016 - 2020.
*Population by Language Spoken at Home is available at the census tract summary level and up.

EJScreen Report (Version 2.11)

.25 miles Ring around the Corridor, NEW YORK, EPA Region 2

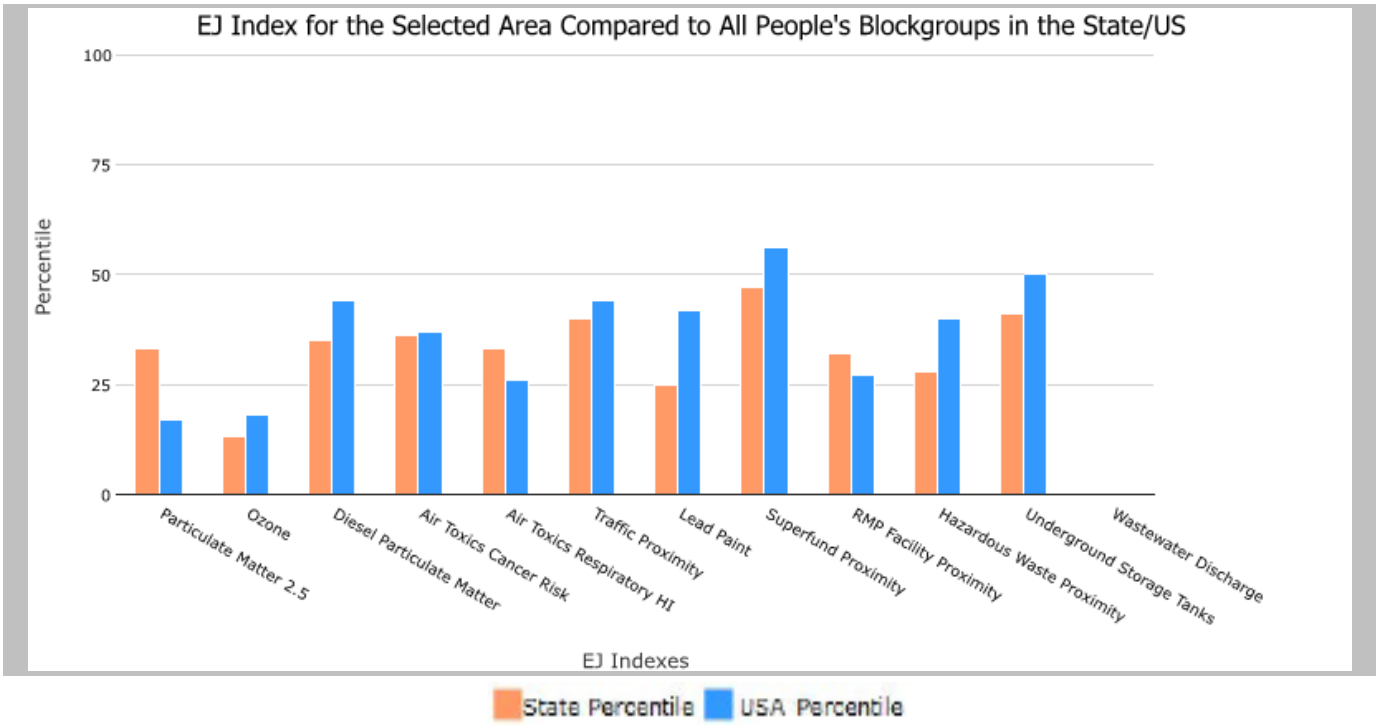
Approximate Population: 2,324

Input Area (sq. miles): 1.01

Sand Creek Road Linkage

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
Particulate Matter 2.5 EJ index	33	17
Ozone EJ index	13	18
Diesel Particulate Matter EJ index*	35	44
Air Toxics Cancer Risk EJ index*	36	37
Air Toxics Respiratory HI EJ index*	33	26
Traffic Proximity EJ index	40	44
Lead Paint EJ index	25	42
Superfund Proximity EJ index	47	56
RMP Facility Proximity EJ index	32	27
Hazardous Waste Proximity EJ index	28	40
Underground Storage Tanks EJ index	41	50
Wastewater Discharge EJ index	0	0

EJ Indexes - The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.



*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

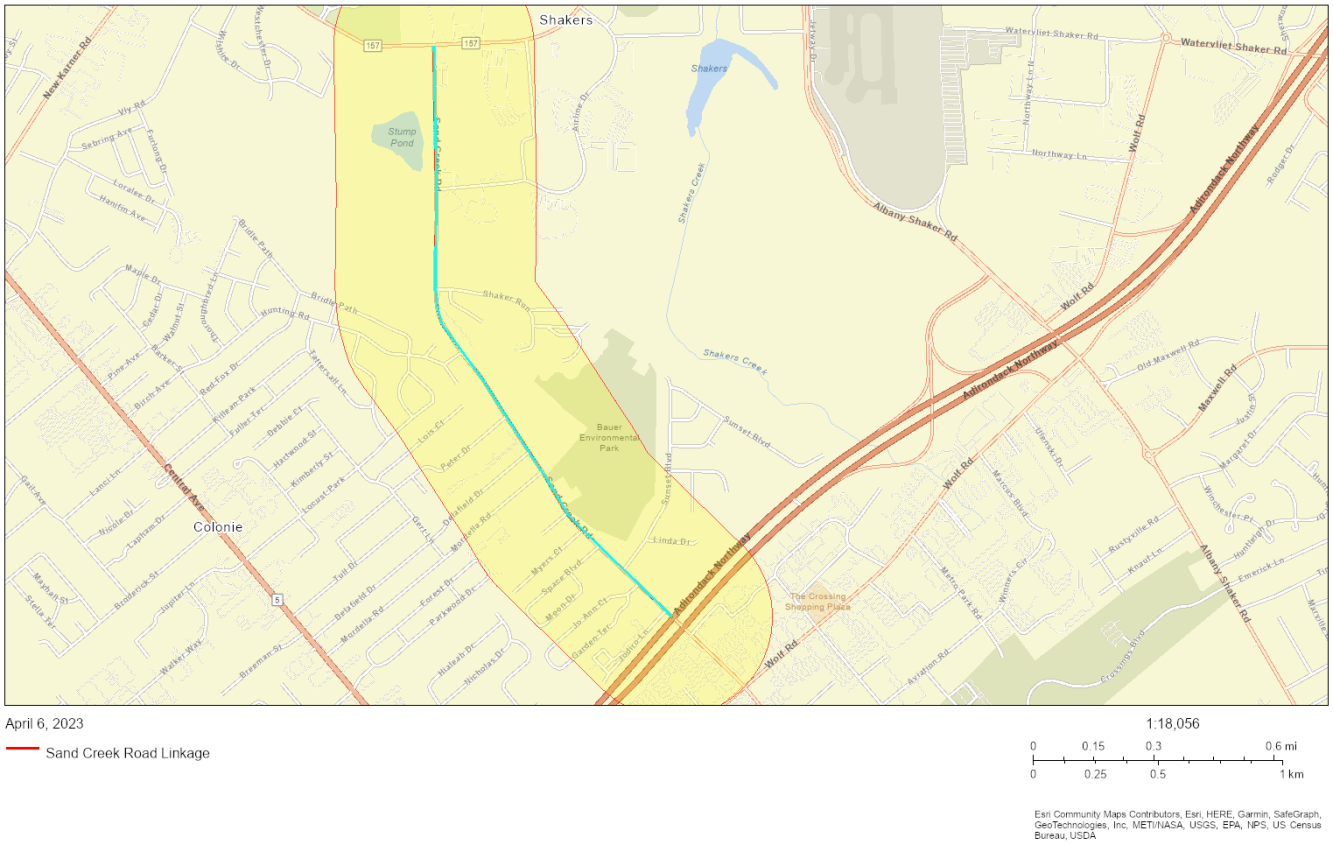
EJScreen Report (Version 2.11)

.25 miles Ring around the Corridor, NEW YORK, EPA Region 2

Approximate Population: 2,324

Input Area (sq. miles): 1.01

Sand Creek Road Linkage



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.11)

.25 miles Ring around the Corridor, NEW YORK, EPA Region 2

Approximate Population: 2,324

Input Area (sq. miles): 1.01

Sand Creek Road Linkage

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 (µg/m^3)	7.33	7.86	34	8.67	18
Ozone (ppb)	38.3	41.5	10	42.5	22
Diesel Particulate Matter* (µg/m^3)	0.287	0.637	39	0.294	60-70th
Air Toxics Cancer Risk* (lifetime risk per million)	30	29	67	28	80-90th
Air Toxics Respiratory HI*	0.3	0.39	49	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	680	870	65	760	74
Lead Paint (% Pre-1960 Housing)	0.31	0.54	23	0.27	58
Superfund Proximity (site count/km distance)	0.26	0.24	79	0.13	89
RMP Facility Proximity (facility count/km distance)	0.17	0.52	37	0.77	32
Hazardous Waste Proximity (facility count/km distance)	0.87	6	27	2.2	53
Underground Storage Tanks (count/km^2)	3.5	7.7	51	3.9	70
Wastewater Discharge (toxicity-weighted concentration/m distance)	1.5E-06	4	18	12	10
Socioeconomic Indicators					
Demographic Index	16%	35%	25	35%	22
Supplemental Demographic Index	10%	14%	36	15%	32
People of Color	18%	45%	36	40%	36
Low Income	13%	29%	29	30%	24
Unemployment Rate	0%	6%	0	5%	0
Limited English Speaking Households	5%	8%	62	5%	74
Less Than High School Education	13%	13%	62	12%	65
Under Age 5	5%	6%	57	6%	55
Over Age 64	16%	17%	53	16%	54
Low Life Expectancy	17%	17%	45	20%	25

EJScreen Report (Version 2.11)

.25 miles Ring around the Corridor, NEW YORK, EPA Region 2

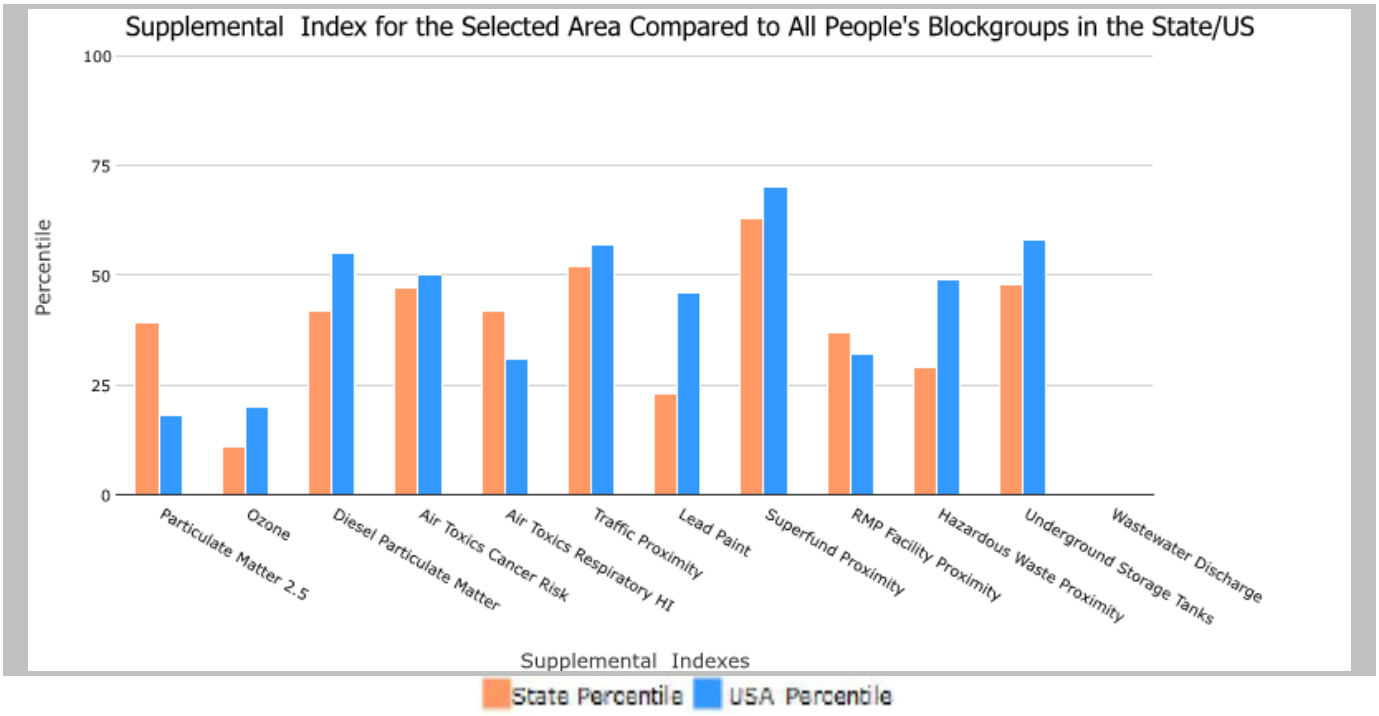
Approximate Population: 2,324

Input Area (sq. miles): 1.01

Sand Creek Road Linkage

Selected Variables	State Percentile	USA Percentile
Supplemental Indexes		
Particulate Matter 2.5 Supplemental Index	39	18
Ozone Supplemental Index	11	20
Diesel Particulate Matter Supplemental Index*	42	55
Air Toxics Cancer Risk Supplemental Index*	47	50
Air Toxics Respiratory HI Supplemental Index*	42	31
Traffic Proximity Supplemental Index	52	57
Lead Paint Supplemental Index	23	46
Superfund Proximity Supplemental Index	63	70
RMP Facility Proximity Supplemental Index	37	32
Hazardous Waste Proximity Supplemental Index	29	49
Underground Storage Tanks Supplemental Index	48	58
Wastewater Discharge Supplemental Index	0	0

Supplemental Indexes - The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on low-income, limited English speaking, less than high school education, unemployed, and low life expectancy populations with a single environmental indicator.



This report shows the values for environmental and demographic indicators, EJScreen indexes, and supplemental indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. For additional information, see: www.epa.gov/environmentaljustice.

APPENDIX F

PUBLIC INFORMATION MEETINGS

Engineering and Land Surveying, P.C.

1533 Crescent Road
Clifton Park, NY 12065
Phone: 518.371.0799
mjelspc@mjels.com

MEETING SUMMARY

Sand Creek Road Complete Streets Study
Village of Colonie, NY

Agenda: Focus Group Session #1 – Sunset Boulevard Neighborhood Association
Date & Time: Tuesday July 11, 2023, 6:30 PM – 7:30 PM
Platform: Open House at the Village Hall, 2 Thunder Road, Albany

Study Advisory Committee Attendees:			
Name:	**Representing:**	**Name:**	**Representing:**
Kerry Bytner	Sunset Boulevard Neighborhood Association	Jim Rubino	Village of Colonie
Jacob Beeman	Capital Region Transportation Council	Jamie Blot	Village of Colonie
Ed Sim	Village of Colonie	Hannah Curran	Village of Colonie
Consultant Team Attendees:			
Megan Bacon, Andris Blumbergs, Lisa Wallin - MJ Engineering & Land Surveying, P.C.			

There were six (6) additional attendees that signed in, see attached sign-in sheet.

Open House Summary:

1. Committee members arrived at 6:00 PM at the Village Hall for an open house for the Sunset Boulevard Neighborhood Association.
2. The open house began at 6:30 PM and a brief introduction to the Study was given to attendees at 6:45 PM.
3. Attendees were encouraged to walk around the room to view the informational boards, ask questions, and leave comments.
4. A summary of the comments left on the roll plots and poster board are below.
5. The open house concluded at 7:30 PM.

Roll Plot Comments:

- A roundabout should be considered at the intersection of Sand Creek Road and Hunting Road.
- Crosswalks are needed at Mordella Road.
- The 4-ton weight limit on Sand Creek Road needs better enforcement.
- Consider re-timing the Sunset Boulevard signal to blink red after 7 PM.
- Visibility from the right coming out of Jodiro Lane is limited.
- A sidewalk is needed along the west side of Sand Creek Road from Jodiro Lane to Computer Drive South.
- A left turn lane from Sand Creek Road onto Computer Drive South should be considered.
- If the service road that connects to Sand Creek Road via the Computer Drive South intersection was better connected and maintained, it could alleviate traffic volumes at the Wolf Road intersection.

Poster Board Comments:

- Consider a connection between the Nash Place and Jodiro Lane neighborhoods to eliminate the need for residents to utilize Mordella Road to get to Central Avenue / Sand Creek Road.
- Consider relocating aerial utilities underground and removing the utility poles.
- The 4-ton weight limit on Sand Creek Road needs better enforcement.
- A midblock crossing is needed at Mordella Road.
- Making left turns onto Sand Creek Road from intersecting streets and driveways is an issue.
- Create separation between the sidewalk and Sand Creek Road between Sunset Boulevard and Hannaford.

MEETING SIGN-IN SHEET

Sunset Boulevard Neighborhood Association Open House Meeting

Sand Creek Road Complete Streets Study

Village of Colonie

Date: July 11, 2023 **Time:** 6:30 PM

Location: Village Hall, 2 Thunder Road, Albany

	Name	Mailing Address	Phone Number
1	Andris Blumbergs	ABlumbergs@mjels.com	
2	Charles Adams	CADAMS83@NYCAP.RR.com	518 452 1203
3	Kerry Byfuer		518 452 4807
4	Jamie Blot	jblot@colonievillage.org	5188697562
5	Hannah curran	hcurran@colonievillage.org	518-869-7562
6	BRIAN TURNER	b.turner71@gmail.com	(518) 573-0755
7	S. GOLD	S.gold@yahoo.com	
8	JOHN RAMUNDO Trustee	fansunlimited@yahoo.com	518-461-5007
9	ART WHITE - Trustee		
10	Patty Lockart Truster		
11	Jim Rubino Trustee		
12	Lisa & Mike McClure	McClwmg@Gmail.com	518.359.5656
13			

Engineering and Land Surveying, P.C.

1533 Crescent Road
Clifton Park, NY 12065
Phone: 518.371.0799
mjelspc@mjels.com

MEETING SUMMARY

Sand Creek Road Complete Streets Study
Village of Colonie, NY

Agenda: Focus Group Session #2 – Traffic Advisory Committee / Albany Bicycle Coalition
Date & Time: Thursday July 13, 2023, 6:30 PM – 7:30 PM
Platform: Presentation during monthly Traffic Advisory Committee meeting at Village Hall, 2 Thunder Road, Albany

Project Team Panelists:		
Name:	**Representing:**	**Email**
Andris Blumbergs	MJ Engineering & Land Surveying, P.C.	ablumbergs@mjels.com
Lisa Wallin	MJ Engineering & Land Surveying, P.C.	lwallin@mjels.com
Jacob Beeman	Capital Region Transportation Council	jbeeman@cdtcmpo.org

Presentation Summary:

See attached minutes from July 13th Traffic Advisory Committee meeting.

Mr. Gillivan provided comments from several residents via email:

- Mr. Bauer, a resident of 508 Sand Creek Road, stated that he has difficulties turning out of his driveway due to the amount of traffic. Motorists frequently use his driveway to go around vehicles waiting to turn left into Sunset Boulevard.
- Ms. Roberts, a resident of 555 Sand Creek Road, stated that there are several business and residential entrances and exits across the street from her house with no clear delineation between them, creating safety concerns. A signalized mid-block crossing is needed from Delafield Drive to Bauer Park as several pedestrians unsafely cross Sand Creek Road here. Traffic backups during peak times are a concern. Speed is a concern from Bauer Park to Watervliet Shaker Road as the corridor opens up into a straight away.

Roll Plot Comments:

- In the area of the Shaker Run apartments, weeds along the road encroach onto the shoulder, forcing cyclists into the travel lane. These weeds need to be cut back regularly.
- Consider turning mailboxes so that they are parallel to the road to give cyclists more room along the shoulder.
- A curb ramp and a mid-block crossing are needed at the Delafield Drive intersection.
- A roundabout should be considered at the intersection of Sand Creek Road and Computer Drive South.
- Pedestrian connections are needed across Sand Creek Road between Computer Drive South and Wolf Road.

Poster Board Comments:

- Left turns into the Hannaford Plaza are an issue.
- Delays from turning vehicles create bottlenecks, especially with left turns onto Sand Creek Road.
- There is a lack of crosswalks along Sand Creek Road, especially at the Hunting Road intersection and Bauer Park.
- Residents along Sand Creek Road have a difficult time exiting their driveways.
- Bike and pedestrian safety is a concern along Sand Creek Road.
- There are concerns of unsafe passing on Sand Creek Road due to delays / impatience.

- The traffic signals should be coordinated across the three jurisdictions (NYSDOT, Town, and Village).
- There is concern about the future development at the end of Watervliet Shaker Road.
- This study is a great opportunity to create linkage for bicycle users.
- There is a concern about “crosswalks to nowhere”.
- There is no stacking lane at the intersection of Sand Creek Road and Computer Drive South.

Village of Colonie

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THOMAS J. TOBIN
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EDWARD SIM
DEPUTY MAYOR

PATTY SCHWARZ LOCKART
TRUSTEE

ART WHITE
TRUSTEE

JAMES RUBINO
TRUSTEE

JAMIE BLOT
CLERK

MINUTES
VILLAGE OF COLONIE TRAFFIC COMMITTEE
THURSDAY, JULY 13, 2023

The Village of Colonie Traffic Committee meeting was held on Thursday, July 13, 2023, at 2 Thunder Rd, Albany, NY 12205. Chairman Prevratil opened the meeting with the pledge of allegiance at 6:30 p.m.

Roll Call:	Chairman, Frank Prevratil	Present
	Dan Hornick	Present
	John Gillivan	Absent
	George Lashoff	Absent
	Les Samiof	Present
	Michael Normandin	Present
	Liasion Ed Sim	Present
	CPD Liaison Investigator DePaulo	Absent
	Kevin France	Present
	Coordinator Hannah Curran	Present

The minutes from the regularly scheduled June 8th meeting were reviewed by the present members of the committee. Mr. Lashoff made a motion to approve the minutes, and Mr. Samiof seconded this motion.

Vote: All in favor.

Liasion Sim introduced the Capital Region Transportation Council and MJ Engineering as the groups working on the Sand Creek Road Complete Streets study.

Mr. Jacob Beeman, from the CRTC, explained that the Study Advisory Committee was created to involve a myriad of agencies that have a stake in the Sand Creek Corridor. These agencies include the Village of Colonie, Town of Colonie, Albany County, CDTA, CRTC, South Colonie School District, CDRPC and DOT. He described the study area, which covers the stretch of Sand Creek Road between Wolf Road and Watervliet Shaker Road. Because this corridor is so highly traveled and connects many destinations, the study at hand intends to make recommendations to improve travel for all modes of transportation. A complete street is a street designed for all users and all modes of transportation. At the completion of the study, recommendations such as curb

extensions, bike lanes, widened shoulders, among others, *may* be made, based on calculations and other public input. It is important to consider the modal hierarchy, that offers it is not practical for all modes of transportation to be prioritized the same on a corridor, and this may be reflected in the concept recommendations. Further, it is also important to note that the future maintenance of these suggested changes should also be taken into consideration, and especially with Sand Creek Road, since it includes more than one municipality. Mr. Beeman went over the study milestones, beginning with the initiation of the study in Winter 2023, and the existing conditions summary that was presented in the Spring. Throughout the Summer, numerous public input sessions have been held to gather thoughts and concerns regarding Sand Creek Road. A draft concept plan will be available during the Fall of 2023, and another public input session will be held regarding these suggestions. Finally, in the Winter of 2023/2024, the final adopted plan will be made available to the Mayor and Board of Trustees. The completed report will then be used to apply for state and federal funding to implement these changes.

Mr. Andris Blumbergs, from MJ Engineering, introduced the existing conditions report for the project. He explained the difference between the land and zoning use along the corridor and noted some of the current bicycle and pedestrian accommodations present. The 5-year crash history was also analyzed and presented, which highlights how many crashes occurred at the intersections in question. It was also noted that for these intersections, the Village of Colonie, the Town of Colonie and DOT are involved in operating their respective traffic signals. Mr. Blumbergs stated that traffic counts were conducted over a 72-hour period from Tuesday, 2/14, to Thursday, 2/16. This resulted in an average of 10,114 cars traveling along the corridor daily. The turning movement counts were conducted during morning and afternoon peak times on March 7th. These counts were then used to determine the level of service, and how well the intersections seem to be operating. On average, according to these calculations, it appears that the Hunting Road and Computer Drive South intersections are operating between "excellent to good" levels. Chairman Prevratil asked who was monitoring the turns, and Mr. Blumbergs responded that it was representatives from MJ who physically recorded the turning movements.

Chairman Prevratil stated that he was shocked by the level of service determinations and claimed that it doesn't reflect what he sees daily. Liasion Sim added that he previously had this discussion with the Study Advisory Committee, as he shares these concerns. He reminded the committee that these are just the observed conditions, and it highlights the importance of including public input. Mr. Ed Brennan, representative of the Albany Bike Coalition, asked what the weather conditions were when the calculations were taken. Mr. Blumbergs stated that it was likely a sunny day, which is typically chosen to ensure accuracy of measurements.

Mr. Beeman added that there will be a section of the final report that will include a narrative of the observed conditions, as the Study Advisory Committee went on a site walk. It was noted that there are no crosswalks currently across Sand Creek Road, and sidewalks only on one side of the road. There were significant backups viewed, and especially with cars trying to make a left onto Sand Creek Road. It was also noted that the "Welcome to the Village of Colonie" sign has been hit numerous times and has had to be replaced.

Mr. Lashoff asked if this information would be available online, and Mr. Blumbergs stated yes, that the presentation would be posted. He explained that the Study Advisory Committee would

be meeting with business stakeholders the following week, and the input sessions would be concluded with a large public meeting on July 24th at the Recreation Center. Again, he reiterated that the draft concept plan would be made available by the Fall. Liasion Sim added that flyers have been mailed out to every Village resident notifying them of the meeting. Mr. Blumbergs also directed everyone to the project website, which includes a link to a live survey where residents can give their input. At the conclusion of the presentation, the consultants invited committee members to provide their comments.

Chairman Prevratil shared that he feels the Hunting Road/Sand Creek Road intersection is one of the greatest problems. He added that right turns aren't so bad, but trying to make left turns onto Sand Creek is nearly impossible. If there's a backup caused by a car attempting to make a left, other cars try to take unsafe right turns by going around them. Chairman Prevratil mentioned that while he was leary about the initial data collected, he appreciated the feedback gathered from the site walk, and agrees with those comments.

Mr. Lashoff stated that he feels that the lack of crosswalks is a great concern. He added that he went door to door on Sand Creek Road to bring awareness to the project. He was concerned with individuals in wheelchairs that often use Sand Creek Road and adding crosswalks to make their commutes safer. He mentioned that residents had discussed suggesting a crosswalk by Hunting Road, and also to connect over to Bauer Park. Mr. Lashoff asked if the proposed development of apartments off of Watervliet-Shaker Road had been taken into consideration, as those residents will likely add to the traffic and number of cars on Sand Creek Road. Mr. Blumbergs stated that they will take this into consideration.

Mr. Brennan shared that Central Avenue has become increasingly dangerous for bicyclists, which leads them to using Sand Creek Road as an alternative. However, traveling on the sidewalks can be hazardous, but there is currently no bike lane. He added that he has noticed some homeowners have turned their mailboxes sideways, which creates more room on the sidewalk. Mr. Brennan also mentioned that there is a gutter on the opposite side of Sand Creek Road that poses a danger to bicyclists. He added that in Albany, they have depressed the gutter to make it part of the bike trail and suggested this as a possible solution.

Chairman Prevratil stated that he sees the need for stacking lanes at the Computer Drive South intersection, as cars also try to make unsafe passes. He added that the traffic signal at Sunset Boulevard helps to break traffic up, so perhaps a signal at Hunting Road would also be helpful. Mr. Lashoff agreed that a turning lane at Computer Drive South would be ideal. Ms. Lisa Wallin, from MJ Engineering, added that this feedback will be helpful once the concepts are drafted.

Mr. Hornick stated that traffic calming is one issue that should be addressed on Sand Creek Road. He added that ultimately, Sand Creek Road is a residential road, and he hopes that future development is taken into consideration with this study. He stressed the need for safe pedestrian crosswalks, but highlighted the problem that the crosswalk would lead to nowhere, since the sidewalk is only on one side of the street. He stated that with regard to bicyclists, we have the opportunity to create a linkage through the Village on this corridor, but the road would need to have some improvements made before it could be utilized as such. Mr. Hornick also asked the consultants if they have ever worked with a municipality that has so much different ownership of

the traffic signals. Mr. Blumbergs said yes, that they have a similar problem with a study between East and North Greenbush. Mr. Hornick stated that the residents that live on Sand Creek Road have difficulty getting in and out of their driveways, and this should be taken into consideration when timing the traffic signals. He hopes that through this study, we can create a more complete, calmer, and residential focus for our community. Liasion Sim added that at a previous meeting, the possibility of moving utilities underground had been brought up. This would result in no poles, bringing more of a community character to the street.

Mr. Brennan asked who maintains the brush on the side of Watervliet-Shaker Road that opposes the entrance to Shaker Run. He stated that the road is very narrow there, and when the brush is too overgrown, it makes it extremely difficult to travel. Liasion Sim stated that would be the town's responsibility, but the town is part of the Study Advisory Committee, so this information could be relayed back to them. Mr. Brennan also shared that while it appears there has been a decline in crashes since COVID-19, there has been an increase in fatalities and serious injuries when crashes do occur. He stated that this is due to increases in size and weight of new cars, as well as increased speeding. He stressed the importance of traffic calming and reducing speeds to reduce serious injuries from occurring. Chairman Prevratil agreed that speeding is a problem, and especially so on Central Avenue.

Mr. France asked if there were times and/or weather conditions associated with the crash history data, and Mr. Blumbergs stated that they could gather more information. Mr. France added that if some of these crashes were weather related, perhaps visibility issues should be addressed. Liasion Sim shared that the majority of the crashes are rear end crashes, and likely caused as a driver is waiting to make a left turn off of Sand Creek Road. Ms. Rima Shamieh, from CRTC, stated that the crash reports indicate a cluster of crashes on the Wolf Road end of Sand Creek Road, East of Sunset Boulevard. She added that she believes the character of the corridor changes here. Chairman Prevratil shared that he has witnessed cars passing each other on that section of the road, between Sunset and Computer Drive South.

Mr. Lashoff asked about the possibility of adding a traffic circle at the Hunting Road intersection. Ms. Wallin stated that this would change the flow of the intersection and may worsen some of the current problems. However, she added that this could certainly be looked into. Mr. Samiof added that some of the houses on Sand Creek Road are very close to the street, so it may not be possible.

Mr. Normandin addressed Mr. Gillivan's comments and traffic counts, which were also submitted to the consultants on his behalf in his absence. Mr. Normandin stated that Mr. Gillivan found the greatest number of pedestrians to be those traveling on the sidewalks, so it is important to keep their safety in mind while considering improvements. Pedestrian traffic is likely to increase as motor vehicle traffic does as well. Chairman Prevratil noted some of Mr. Gillivan's comments, as he went to speak with numerous residents from Sand Creek Road. He addressed one resident that asked why a light was placed at Computer Drive South in the first place. It was discussed that generally, this is a safer way to get in and out of Hannaford Plaza, but it could likely be improved and made safer with a turning lane.

Mr. Blumbergs handed out flyers and business cards to members of the committee, again, stressing the need for public feedback in order to create a comprehensive report. There is a live survey on the project website that residents should be encouraged to take as a means for providing their feedback.

Chairman Prevratil and members of the committee thanked the consultants for their time and presentation.

A motion was made by Mr. Hornick to adjourn the meeting at 7:32 p.m. This motion was seconded by Mr. Lashoff.

Vote: All in favor.

Respectfully submitted,

Hannah Curran
Traffic Advisory Committee Coordinator
Village of Colonie

Engineering and Land Surveying, P.C.

1533 Crescent Road
Clifton Park, NY 12065
Phone: 518.371.0799
mjelspc@mjels.com

MEETING SUMMARY

Sand Creek Road Complete Streets Study
Village of Colonie, NY

Agenda: Focus Group Session #3 - Business Stakeholders
Date & Time: Wednesday July 19, 2023, 9:30 AM – 10:15 AM
Platform: Hybrid Presentation held at the Transportation Council Offices, 1 Park Place, Albany

Study Advisory Committee Attendees:			
Name:	**Representing:**	**Name:**	**Representing:**
Kerry Bytner	Sunset Boulevard Neighborhood Association	Ed Sim	Village of Colonie
Jacob Beeman	Capital Region Transportation Council	Jim Rubino	Village of Colonie
Brian Sim	South Colonie School District	Jaime Blot	Village of Colonie
Frank Prevratil	Village Traffic Committee	Jim Mearkle	Albany County
Consultant Team Attendees:			
Megan Bacon, Andris Blumbergs, Lisa Wallin - MJ Engineering & Land Surveying, P.C.			
Attendees:			
David Perry	South Colonie School District		
Kristen Blaze	Tiny Town of Colonie		
Susan Olsen	NYSDOT Region 1		

Presentation Summary:

1. The presentation started at 9:30 AM.
2. Jacob welcomed the participants to the presentation and gave a brief overview of the study before handing the remainder of the presentation over to MJ.
3. Megan gave the technical presentation which covered the following:
   - Introductions
   - Study Overview & Objectives
   - Complete Streets Overview & Examples
   - Schedule Overview
   - Existing Conditions
     - Observed Site Conditions
     - Pedestrian & Bicycle Accommodations
     - Crash History
     - Intersections
     - Traffic Data Collection
     - Traffic Data Analysis
   - Next Steps
   - Q&A

Summary of Q & A Session:

The following discussion points were raised during the Q&A Session:

1. Susan Olsen:
   - A lot of employees walk the corridor at lunch time; it's hot during the summer and not much shade.
   - The access road that connects to Sand Creek via the Computer Drive South intersection was just paved by NYSDOT because executive management requested it.
   - The NYSDOT building is owned by OGS. Susan is going to check with OGS to see if they own or maintain the access road as well.
1. Kristen Blaze
   - Parents want to cross Sand Creek Road at Delafield Drive to get to Bauer Park. It is difficult to do so now.
   - A lot of people were observed walking on the east shoulder from South Family Drive to Shaker Run.
2. Jim Rubino
   - Sand Creek Road, east of Wolf Road, has a center turn lane. Would that work here?
3. Brian Sim
   - There are 11 school bus stops along the Sand Creek Road corridor from Shaker Run to Jodiro Lane; one of these stops being at Tiny Town of Colonie. Buses stop at these locations approximately 3 times per day between the elementary, middle, and high schools. There are concerns that adding a lane would allow cars to drive around stopped buses unsafely.
4. Frank Prevratil
   - Frank wanted to reiterate that he disagrees with the traffic model as it does represent the conditions observed in the field and questioned if future development was taken into consideration.
   - It was explained that the traffic analysis only analyzes the existing conditions. Any future development would be included in the proposed analysis typically done during the design phase of projects.

Engineering and Land Surveying, P.C.

1533 Crescent Road
Clifton Park, NY 12065
Phone: 518.371.0799
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MEETING SUMMARY

Sand Creek Road Complete Streets Study
Village of Colonie, NY

Agenda: Public Input Session #1
Date & Time: Monday July 24, 2023, 6:30 PM – 8:00 PM
Platform: Open House at the Village Family Recreation Center

Study Advisory Committee Attendees:			
Name:	**Representing:**	**Name:**	**Representing:**
Kerry Bytner	Sunset Boulevard Neighborhood Association	Ed Sim	Village of Colonie
Jacob Beeman	Capital Region Transportation Council	Jim Rubino	Village of Colonie
Rima Shamieh	Capital Region Transportation Council	Jaime Blot	Village of Colonie
Frank Prevratil	Village Traffic Committee	Hannah Curran	Village of Colonie
Consultant Team Attendees:			
Megan Bacon, Andris Blumbergs, Lisa Wallin - MJ Engineering & Land Surveying, P.C.			

There were 47 attendees that signed in; the sign in sheets are attached.

Open House Summary:

1. Committee members arrived at 5:45 PM at the Village's Family Recreation Center for the Public Input Session #1 open house.
2. The open house began at 6:30 PM and a brief introduction was given to attendees at 6:45 PM.
3. Ed Sim welcomed attendees before handing the remainder of the presentation over to MJ.
4. Lisa and Megan gave a brief introduction to the Study, which covered the following:
   - Introductions
   - Study Overview & Objectives
   - Complete Streets Overview & Examples
   - Schedule Overview
   - Existing Conditions Overview
5. Ed thanked everyone for their time and encouraged attendees to walk around the room to view the informational boards, ask questions, and leave comments.
6. Several attendees had comments and questions that they requested be heard in front of the group:
   - Bill Gariepy stated that there is a lot of truck traffic along Sand Creek Road, speeding is an issue, and his mailbox has been hit several times. Mr. Gariepy requested that 3-way stops at the intersections be considered.
   - A Sand Creek Road resident questioned why Sand Creek Road was being called a corridor. She stated her opposition to bus stops and explained that the sidewalks are untraversable due to poor condition.
   - A Space Boulevard resident stated that he was happy to hear that different modes of transportation will be considered for the study.
   - In regard to a sentence on the study flyer, "the Village of Colonie is poised for growth and development", an attendee questioned what development is being referred to? It was clarified that the development in question refers to the development around the corridor within the Town of Colonie.
   - An attendee asked if there were any plans to widen the road? It was stated that there are no plans for roadway widening at this time, and Ed reminded attendees that this is a Study to find out what improvements are warranted.
   - An attendee stated that coordination with the Town of Colonie is needed for this study. It was confirmed that the Town

has been involved with the study as part of the advisory committee.

7. Ed again thanked everyone and the group Q&A concluded.
8. A summary of the comments left on the roll plots, poster board, and in the comment box are below.
9. The open house concluded at 8:00 PM.

Roll Plot Comments:

- The section of Sand Creek Road from Watervliet Shaker Road to Shaker Run is dangerous for pedestrians, especially at night.
- Consider adding 3-way stops at major intersections.
- Dead-end Hunting Road, Mordella Road, and Delafield Drive as recommended in Phase III in the Village Master Plan.
- The vegetation located at 598 Sand Creek Road creates sight distance issues for residents trying to turn onto Sand Creek Road from their driveways.
- Access management is needed at the Smile Zone and Tiny Town of Colonie as the non-delineated entrances and exits create confusion and are a safety issue.
- Consider a bicycle/roller blade path along the corridor.
- Bauer Park needs a signalized mid-block crossing due to heavy pedestrian traffic. Maybe a raised crosswalk could be considered.
- Mordella Road needs a signalized mid-block crossing due to heavy pedestrian traffic from the school.
- Consider sidewalks on the west side of Sand Creek Road. Another attendee disagreed.
- The existing sidewalks along the east side of Sand Creek Road need to be replaced.
- Crosswalks should be considered from the side streets to the existing sidewalk on the east side of Sand Creek Road. Another attendee stated that not all side streets should receive a crosswalk.
- Consider a left turn lane into the Sunset Boulevard neighborhood.
- Consider protected bicycle lanes along Sand Creek Road. Another attendee agreed.
- Updated/new crosswalks are needed at the Sand Creek Road / Computer Drive South intersection.
- Roundabouts would allow people to take rights and ultimately travel north along Sand Creek Road.
- Consider a left turning lane onto Computer Drive South. Another attendee agreed.
- The light at Computer Drive South needs attention as it regularly backs up at certain times of the day.
- Vehicles attempting to make the left turn onto Computer Drive South create delays. This leads to motorists attempting to pass on the right where there is not sufficient room to do so.
- Consider access management for the driveways between Computer Drive South and Wolf Road.
- Vehicles making turns off of Sand Creek Road between Computer Drive South and Wolf Road create backups.
- The signal timing/phasing for motorists making a left from Sand Creek Road onto Wolf Road is confusing.

Poster Board Comments:

- Central Avenue should be considered for a study as well.
- Consider a traffic light at Mordella Road to allow school buses and residents to enter and exit.
- Consider a traffic light at Delafield Drive and/or Mordella Road to allow for left turns onto Sand Creek Road.
- Widen the shoulders along Sand Creek Road, add a bicycle lane, or sign for bicycle route.
- Can the traffic counts be extended to 7:00 AM – 10:00 AM? Elementary start time is 9:15 AM.
  - Traffic counts were taken continuously over a 72-hour period. The turning movement counts at the two intersections were taken from 8:00 AM – 10:00 AM.
- Consider a crosswalk from Delafield Drive to Bauer Park.
- Do traffic counts consider those who leave the area for the winter?
  - Traffic counts are typically taken while school is in session as this is when traffic is at its peak. The decrease in traffic from those who leave the area for the winter does not typically affect the timing of peak traffic.
- Consider a streetlight at the Sand Creek Road and Mordella Road intersection.

Verbal Comments:

- Consider fixing the sidewalk gaps and providing bicycle connectivity along the vacant parcels.
- Install cameras in speed signs to enforce the speed limit.
- Street lighting should be considered as there is a lot of deer/wildlife activity along Sand Creek Road between Hunting Road and Watervliet Shaker Road.
- There is frequent bicycle and pedestrian traffic.
- Improving public transit options along the corridor should be considered.

MEETING SIGN-IN SHEET

Public Input Session #1

Sand Creek Road Complete Streets Study

Village of Colonie

Date: July 24, 2023 **Time:** 6:30 PM

Location: Village Family Recreation Center, 3 Thunder Road, Albany

	Name	Mailing Address	Phone Number
1	Andris Blumbergs	ABlumbergs@mjels.com	
2	[illegible] Soniof	14 VILLAGE PARK DR ALBANY	[illegible]
3	James M	15 Vincent Ave 21B	
4	Orzel, Michael	22 Forest DR.	
5	Cathy Musselwhite	116 Rapple DR.	
6	[illegible]	10 Laurendale St	
7	Beth Hanley	1A Sunset Blvd	518-248-8315
8	Julian Torres	5 Debbie Marie Ct	518-813-6774
9	Lenny HART	8 DELAFIELD DR.	
10	[illegible]	9 Aldershot Rd	
11	Linda Murphy	14 Benjamin Lane	
12	Matthew Angier	604 Sand Creek Rd	
13	ROBERT BRISSON	12 SPACE BLVD,	518-951-4002

MEETING SIGN-IN SHEET

Public Input Session #1

Sand Creek Road Complete Streets Study

Village of Colonie

Date: July 24, 2023 **Time:** 6:30 PM

Location: Village Family Recreation Center, 3 Thunder Road, Albany

	Name	Mailing Address	Phone Number
14	Carole Trifiletti	17 Fort Dr.	518 869-6324
15	Patricia Kennedy	22 Peter Dr.	518-869-3398
16	Patricia Lockart	12 Peachtree Ln.	518-452-3866
17	Bob Scofield	23 Laurendale	518 869 1082
18	Kody Carpenter	12 Space Blvd	518-312-8724
19	JENNIFER BALDWIN	523 Sand Creek Rd.	518-461-2376.
20	Elaine Carpenter	5 Stirrup Dr	518, 275-9899
21	KIRSTI STRIEPY	587 SAND CREEK RD	518 869 8125
22	Rick Danz	30 Mordella Rd	518 869 2338
23	John Gillivan	32 Tattersall Lane	518 469-4248
24	Cathy + Ken Diegel	68 Mordella Rd	(518) 452-9636
25	Frank A. Provenzi	9 Jodiro Lane Apt 100	518-727-7545
26	Meg Roberts	555 Sand Creek Rd	518-378-1169

MEETING SIGN-IN SHEET

Public Input Session #1

Sand Creek Road Complete Streets Study

Village of Colonie

Date: July 24, 2023 **Time:** 6:30 PM

Location: Village Family Recreation Center, 3 Thunder Road, Albany

	Name	Mailing Address	Phone Number
27	Antoine & Amanda	5 Vincent Ave, Colonie	
28	Joyce & Dan Espey	25 Red Fox Dr.	
29	Linda & Jerry Karl	37 Mom Drive	
30	Lai F. Y. Ho	14 Lois Ct.	
31	Sandy Zip	14 Lois Ct.	
32	Fred Bauer III	520 Sand Creek Rd	
33	John Sasso	206 Shaker Run Colonie	
34	Arthur & Euphemia Adams	7 JoAnn Ct	(518) 456-1814
35	Alison VanDerVolgen	59 Fuller Ter	
36	Susan L. Brodico	~~573~~ 577 SAND CREEK RD	518-522 4465
37	Greg TAFFE	21 Lois Ct	456-2291
38	Paul Boyle	27 Hunting Rd	456-0689
39	Vadim Atenzon	4 Laurendale St	227-0560

MEETING SIGN-IN SHEET

Public Input Session #1

Sand Creek Road Complete Streets Study

Village of Colonie

Date: July 24, 2023 **Time:** 6:30 PM

Location: Village Family Recreation Center, 3 Thunder Road, Albany

	Name	Mailing Address	Phone Number
40	Joe Mirabile	1-B Van Buren Ave 12205	438-2104
41	Joe Phillips	13 Laurendale St. 12205	464-2698
42	Dale Jones	6/2 Sand Creek Rd 12205	869-5555
43	Lynn McLaughlin	10 Lapham Dr. 12205 (used to live on SC)	461-8002
44	Faye Arthur Adams	7 JoAnn Ct. -	456-1814
45			
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52			

Sand Creek Road Complete Streets Study

SURVEY HIGHLIGHTS

Data Collection

As part of the public engagement component of the Sand Creek Road Complete Streets effort, an online survey was developed. The goal of this survey was to gather input from community members, residents, visitors, business owners, and other stakeholders regarding perceived challenges and opportunities that exist along Sand Creek Road. The purpose of the survey results was to assist the Village of Colonie and project team in the preparation of the corridor concepts and the Final Sand Creek Road Corridor Study.

The online version of the survey was created and distributed using the Survey Monkey web platform and went live on June 5, 2023, and remained open until August 14, 2023, with **121** total responses received.

The survey was advertised on the project website www.SandCreekCompleteStreets.com, the Village website, and at all public and stakeholder meetings. Information and links to the survey were also distributed during the survey period on flyers throughout the Village and through the school district's portal, which included a Quick Response (QR) code so respondents could access the survey directly on a mobile device. Furthermore, the project team had hard copies available at the public input sessions and Village Hall throughout the survey period.

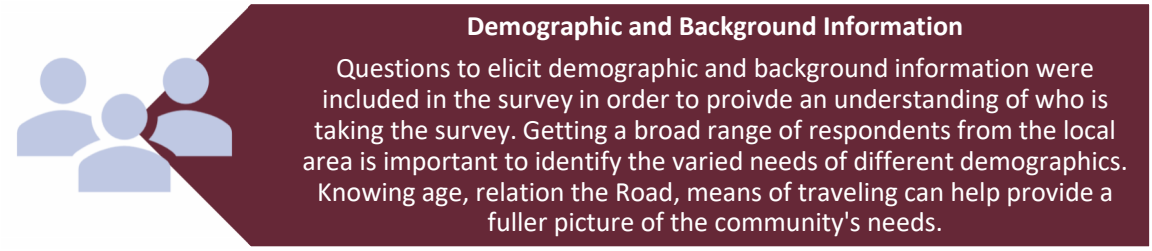
The corridor links significant community destinations, commercial activity, employment centers, recreation areas, regional transportation hubs, and residential neighborhoods. The Sand Creek Road Complete Streets Concept Study was proposed by the Village of Colonie to develop a plan to implement a Complete Street that is safe, and convenient for travel by all modes of transportation by promoting elements that can reduce vehicular speed and congestion, improve safety for bicyclists and pedestrians, and encourage economic growth in the study area. The Capital Region Transportation Council and the Village of Colonie are funding the study through Transportation Council's 2022-2023 Community and Transportation Linkage Planning Program.

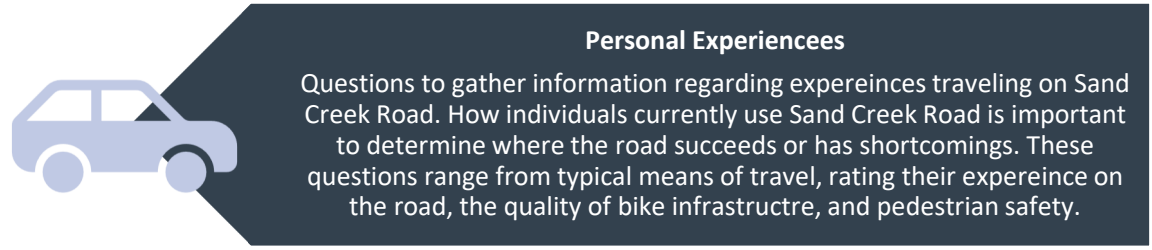
Data Limitations

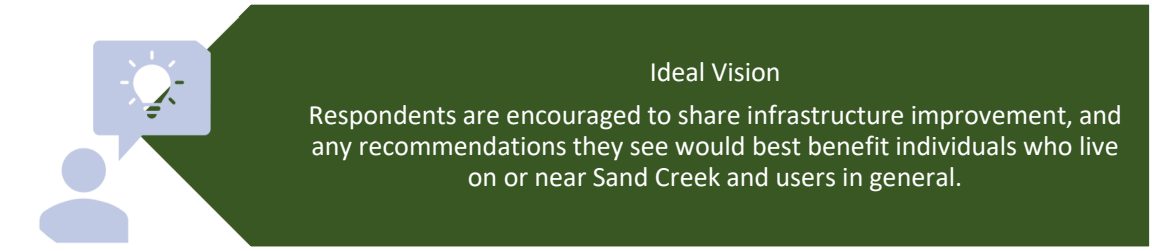
The survey was one piece of numerous public engagement activities that helped identify key themes throughout the community. Because the survey respondents were self-selecting, survey responses are not a statistically valid representation of the overall community. The survey alone cannot be used to find the "answer" or "solution", but it can in part help guide the corridor study's long-term vision and identify the tools and actions needed to achieve that vision.

SURVEY TOPIC AREAS

The survey design sequenced several topic areas to focus and categorize the questions. The survey topic areas include Demographic & Background Information, Personal Experiences, and Ideal Vision. Below is a description of each survey topic area.







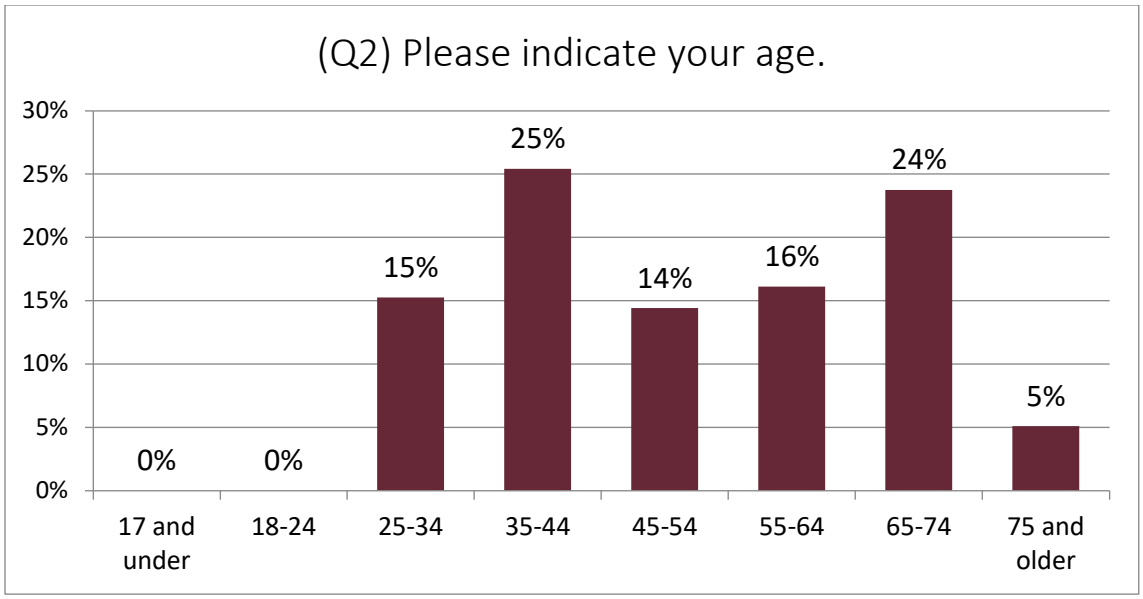
Survey Highlights

The following is an overview of selected survey findings from each section of the survey.

Demographic and Background Information

Question 1 (Q1) of the survey asked respondents for their zip code. The five most common zip codes and the occurrences for each are listed below:

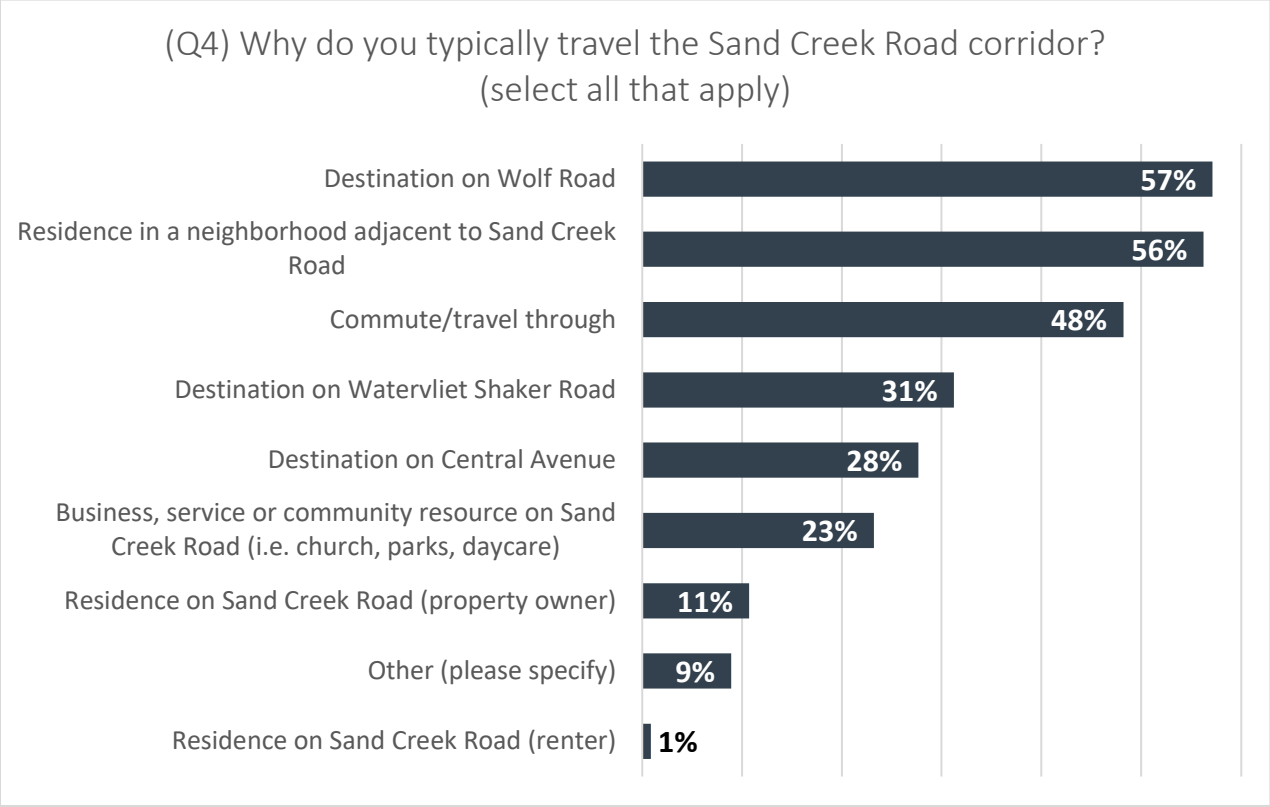
12205 (66)
12309 (12)
12211 (10)
12206 (4)
12110 (4)



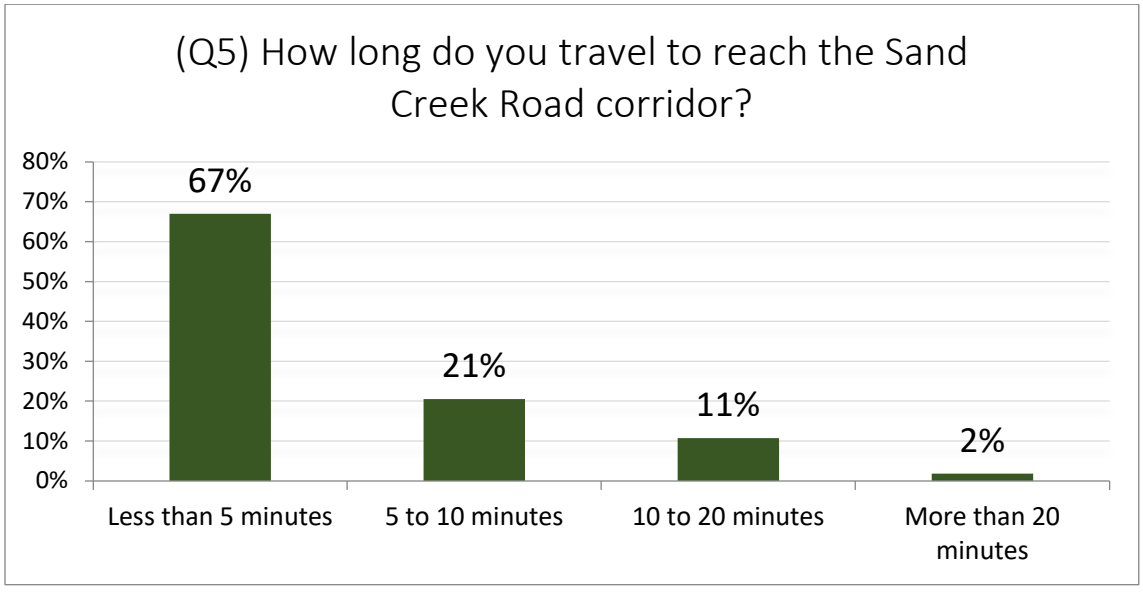
Question 2 (Q2) of the survey asked respondents to select their age cohort. Of the 118 total respondents, the two most prevalent age cohorts were the 35-44-year-old age group (25%) and 65-74-year-old age group (24%). The age groups of 25-34, 45-54, and 55-64 years old were roughly the same percentage (around 15%). A small portion of respondents were 75 years or older (5%). It is important to note that no survey respondents were between 17 and 24 years old.

Question 3 (Q3) asked respondents if they have a disability, whether it is a mental or physical impairment that substantially limits their ability to walk, drive, etc. Although most respondents reported "No" at 92%, some respondents do have a disability (8%). Providing ADA compliant sidewalks like wide pathways for wheelchair-bound individuals and curb ramps is important in any community.

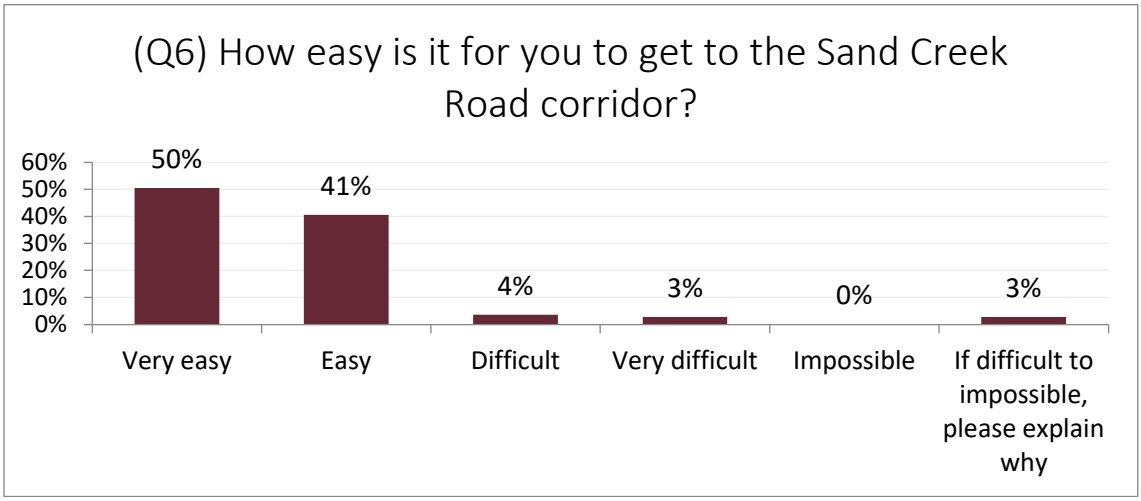
Personal Experiences



Question 4 (Q4) asked respondents to indicate their typical reason for traveling the Sand Creek Road Corridor. Having a destination on Wolf Road (57%) and having a residence in a neighborhood near the corridor (56%) were the most prevalent responses. Being a renter along the corridor was the least common response at less than 1%. Respondents that chose "Other" report having family who live on Sand Creek Road or use the roadway for recreation.



Question 5 (Q5) asked how long it takes respondents to reach the Sand Creek Corridor. Many respondents appear to live near the corridor, traveling less than 5 minutes to get there (67%). Approximately 21% of respondents travel between 5 and 10 minutes to reach the corridor. It appears that improving Sand Creek Road would directly benefit individuals who live on or close to the roadway.

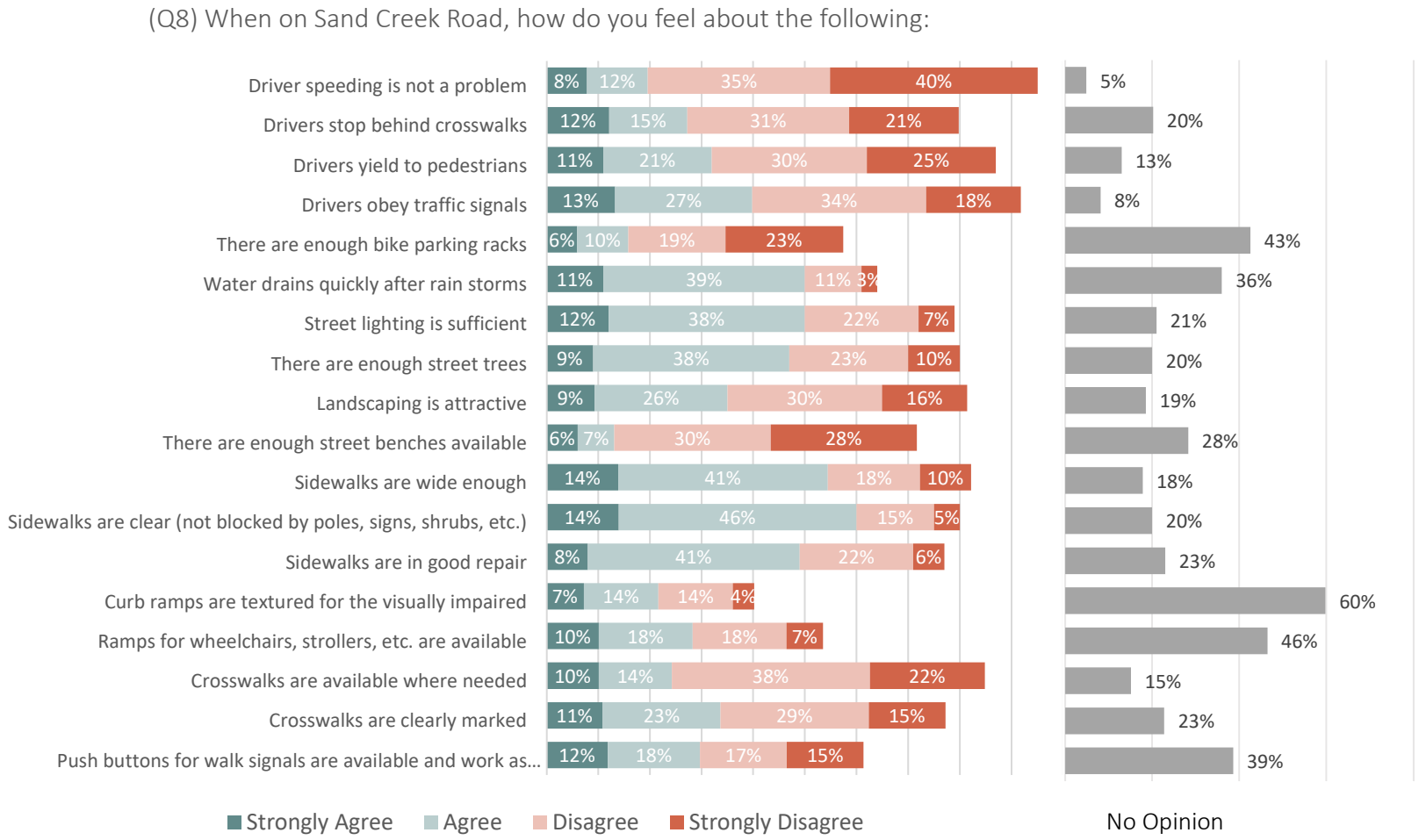


Question 6 (Q6) implored respondents to rate how easy it is for them to reach the Sand Creek Road corridor. Half of the respondents report "Very Easy" and 41% describe it as "Easy." Those that found access to the corridor difficult or impossible were encouraged to explain why. Comments from those respondents include:

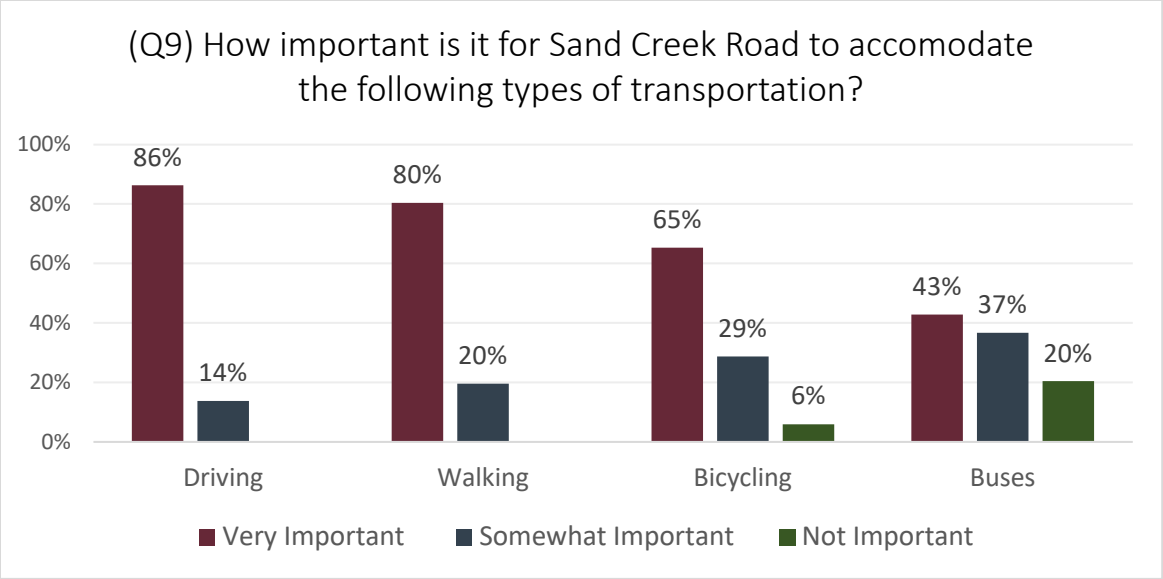
Too many cars turning in a short stretch of road.

It is very dangerous to turn left onto Sand Creek from Hunting Road.

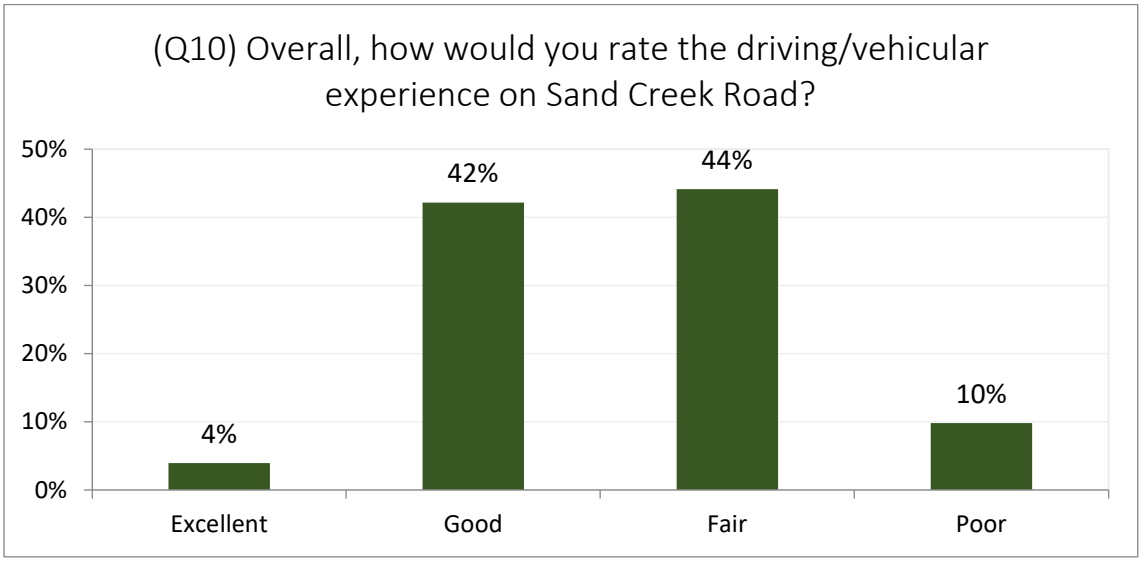
Question 7 (Q7) asked respondents how frequently they use different modes of transportation along the Sand Creek Road corridor. Weighted averages were calculated based on the frequency of method of transportation, with respondents choosing between daily, 2-3 times per month, and never. Driving was the most common means of transportation along the corridor (4.28). The least common means to travel were taxi/Uber/Lyft (1.13) and public transit/bus (1.1).



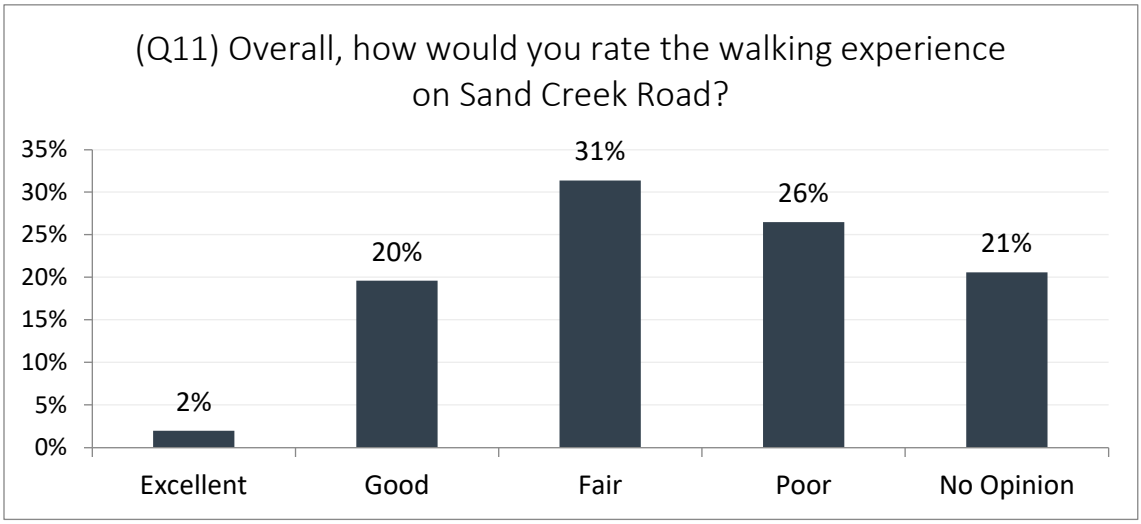
Question 8 (Q8) invited respondents to share their feelings toward Sand Creek Road and the road's amenities or lack thereof. A large number of respondents find that driving speed is a problem. Other problems include sidewalks being blocked, crosswalks unavailable, and drivers don't yield to pedestrians.



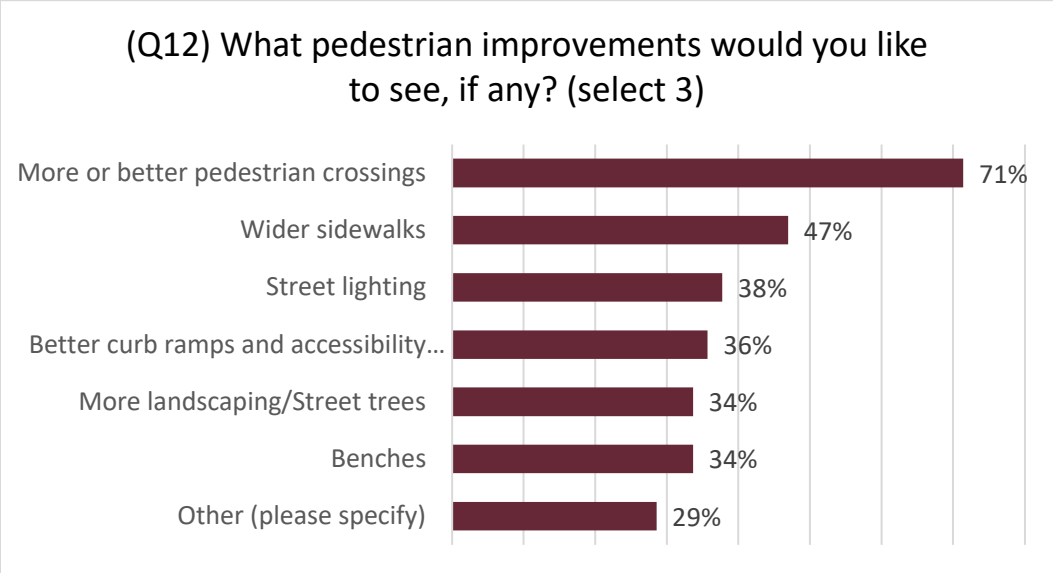
Question 9 (Q9) asked respondents to rate the importance of accommodating types of transportation. Driving was the most prevalent response (86%) with walking following close behind (80%). Respondents chose accommodating buses as "not important" at 20%.



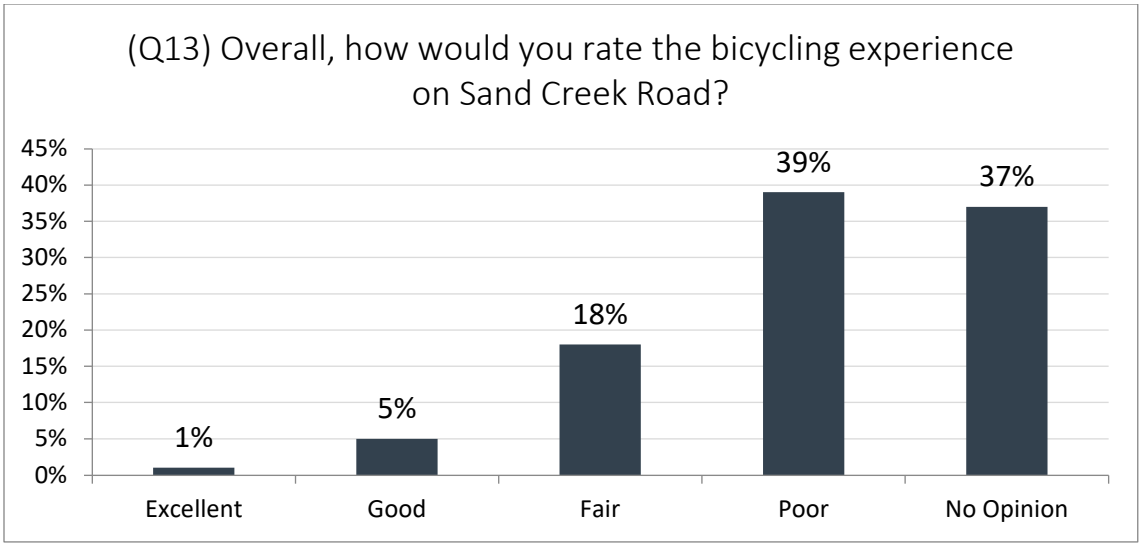
Question 10 (Q10) asked respondents rate their driving or vehicular experience on Sand Creek Road. Only 4% of respondents rate the driving/vehicular experience on Sand Creek Road as "excellent." The most common responses were "Good" (42%) or "Fair" (44%) experience. However, 10% rate the driving experience on Sand Creek Road as "Poor."



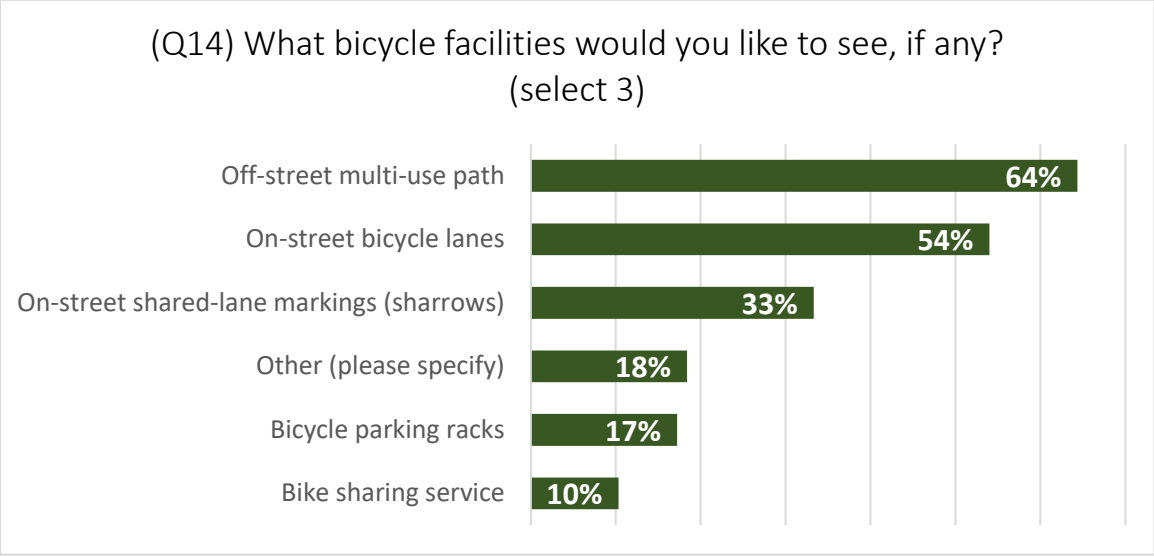
Question 11 (Q11) invited respondents to rate their walking experience on Sand Creek Road. Although many respondents consider their walking experience on Sand Creek Road as "Fair" (31%), over a quarter consider it as "Poor". Those that chose "No Opinion" (21%) may not walk along Sand Creek Road.



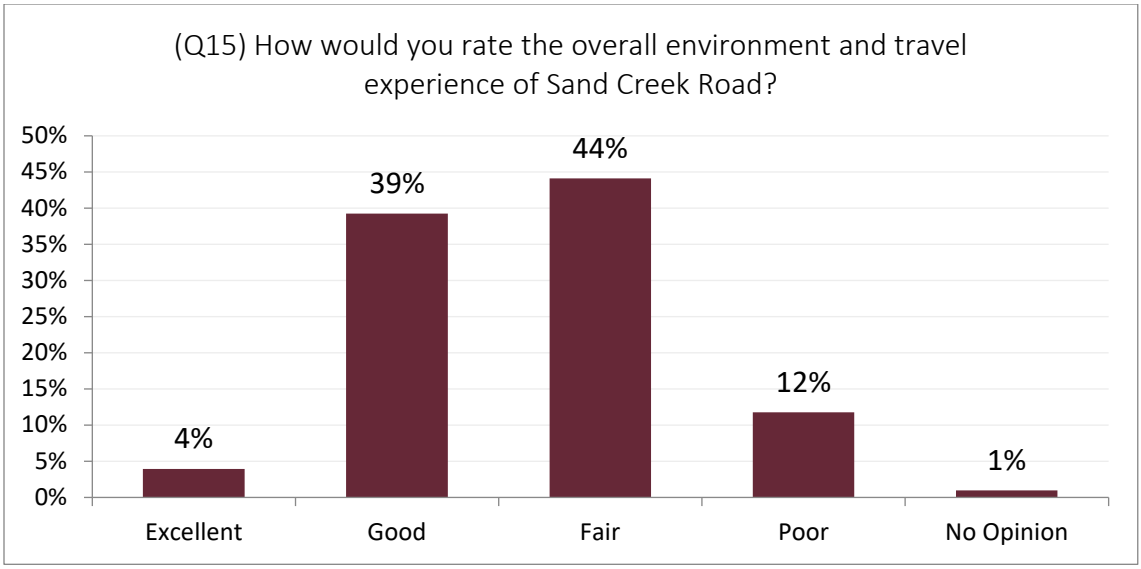
Question 12 (Q12) asked respondents for pedestrian improvements that they would like to see. The most prevalent response was additional or improved pedestrian crossings (71%). However, all suggested improvements garnered more than a quarter of the support from respondents. Those that selected "Other" (29%) suggest better traffic control, bike lanes, and continuous sidewalks along Sand Creek Road.



Question 13 (Q13) invited respondents to rate their bicycling experience on Sand Creek Road. The most prevalent response was "Poor' at 39%. The second most common response was "No opinion" which may suggest that these respondents have never bicycled along Sand Creek Road and thus have no experience to rate.



Question 14 (Q14) asked respondents what type of bike facilities they would like to see on Sand Creek Road. Off-street multi-use path was the most popular response at 64%. However, approximately 54% would enjoy on-street bicycle lanes.



Question 15 (Q15) asked respondents to rate their overall environment and travel experience on Sand Creek Road. The majority of respondents consider the overall environment and travel experience on Sand Creek Road as "Fair" (44%) or "Good" (39%). Very few consider it as "Excellent" (4%) and over 10% consider the environment and travel experience as "Poor."

Question 16 (Q16) was open ended and asked respondents to share any other ideas for improvements to Sand Creek Road. Of the sixty-two (62) responses, these are summarized themes that are the most prevalent.

Safety for Biking & Walking:

Community members are concerned about the lack of safety for cyclists and pedestrians on Sand Creek Road. They wish for dedicated bike lanes, improved pedestrian facilities, safer crossing options, and better visibility at intersections to improve safety for non-drivers.

Traffic Management & Speed Control:

Speeding and traffic congestion are key issues for the community. They suggest measures such as reduced speed limits, traffic-calming techniques, and using speed indicators to manage traffic speed effectively.

Infrastructure Improvement:

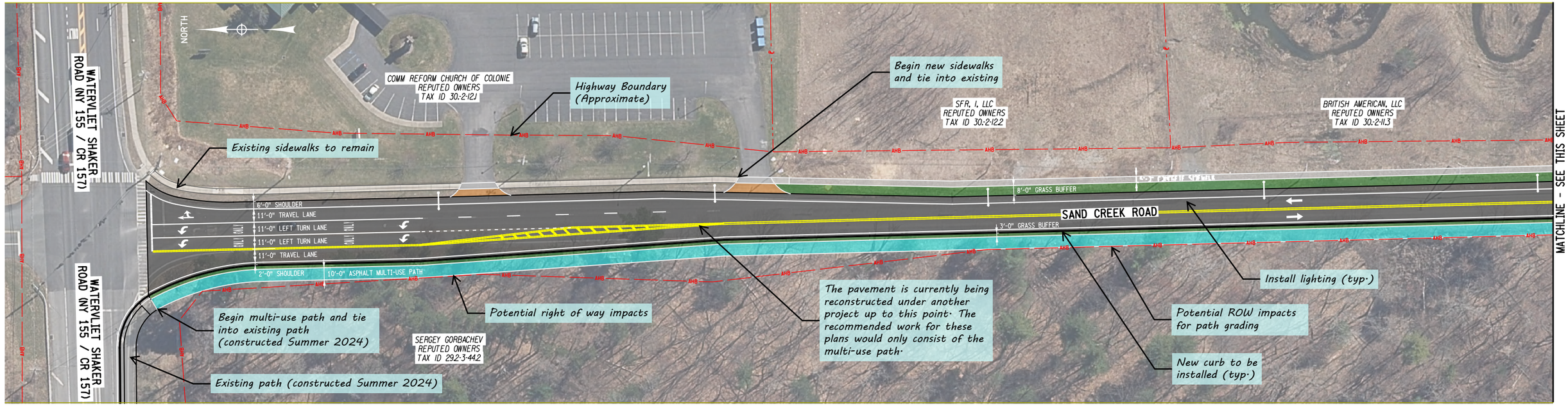
The condition of Sand Creek Road's infrastructure is a concern. Residents are looking for road repairs, addressing potholes, improving drainage systems to prevent flooding, and maintaining and enhancing pedestrian facilities.

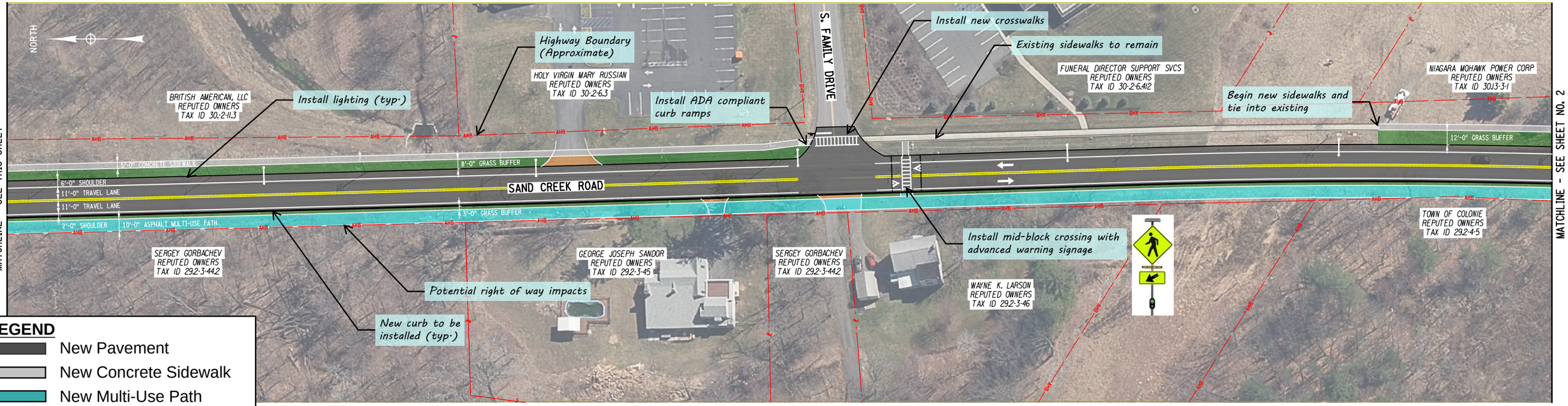
Local Community Concerns:

Community members want to maintain the area's small-town feel and character. They're cautious about road widening, express concerns about safely exiting streets, advocate for preserving green spaces, and emphasize enforcing speed limits and traffic rules.

APPENDIX G

CONCEPTUAL PLANS & TYPICAL SECTIONS





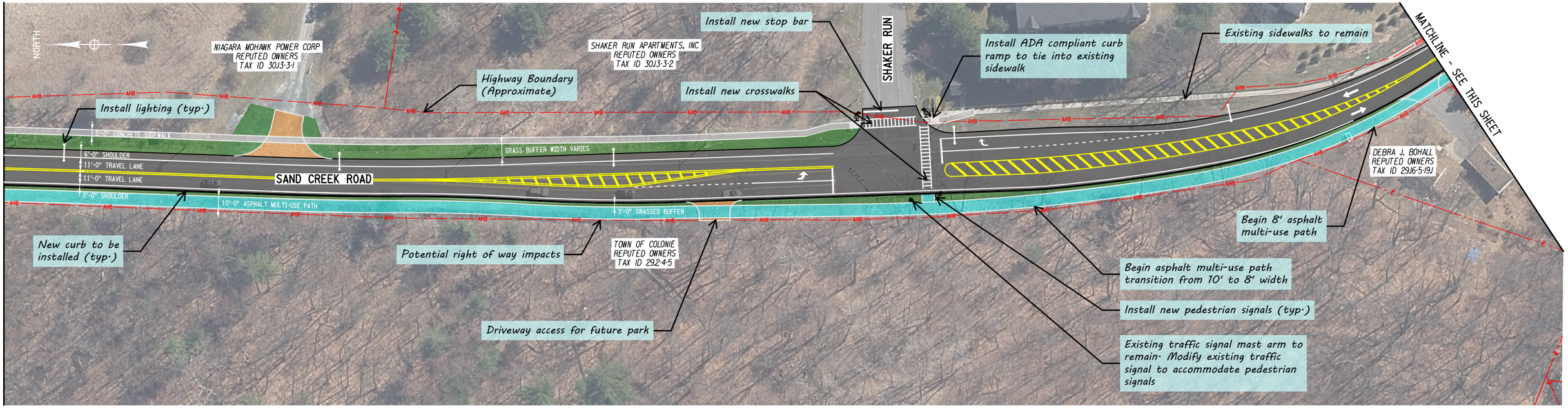
LEGEND

- New Pavement
- New Concrete Sidewalk
- New Multi-Use Path
- Grass Area
- Driveways

40 0 40 80 120 160

1" = 80'

CAPITAL REGION Transportation Council
Engineering and Land Surveying, P.C.
Village of Colonie



VILLAGE OF COLONIE SAND CREEK ROAD COMPLETE STREETS CONCEPT STUDY
CONCEPTUAL PLAN - SHEET NO. 2

CAPITAL REGION Transportation Council
Engineering and Land Surveying, P.C.
Village of Colonie

MATCHLINE - SEE SHEET NO. 2

MATCHLINE - SEE THIS SHEET

NORTH

SAND CREEK ROAD

Existing sidewalks to remain

Install ADA compliant curb ramp to tie into existing sidewalk

End multi-use path

Begin shared-use lanes

11'-0" TRAVEL LANE

11'-0" TRAVEL LANE

8'-0" ASPHALT MULTI-USE PATH

2'-0" GRASS BUFFER

13'-0" SHARED USE TRAVEL LANE

13'-0" SHARED USE TRAVEL LANE

6'-0" SHOULDER

JOSEPH FINGERHUT REPUTED OWNERS TAX ID 30J7.4-5

GENE T. PERROTI REPUTED OWNERS TAX ID 30J7.4-6

AMHED ALSHABOUT REPUTED OWNERS TAX ID 30J7.4-7

KAYLA MARTINEZ REPUTED OWNERS TAX ID 30J7.4-8

PHILLIP WICKERT REPUTED OWNERS TAX ID 30J7.4-9

MARGARET A. ROBERTS REPUTED OWNERS TAX ID 30J7.4-10

VILLAGE OF COLONIE REPUTED OWNERS TAX ID 30J7.4-11J

SAND CREEK HOMEOWNERS ASSOC REPUTED OWNERS TAX ID 30J7.4-11.2

VILLAGE OF COLONIE REPUTED OWNERS TAX ID 30J7.4-15.2

JEFFREY T. WHITE REPUTED OWNERS TAX ID 30J7-1-55

WELTER FAM TRUST, JOSEPH M. & DIANE G. REPUTED OWNERS TAX ID 30J7-2-18

JORDYN TAYLOR REALTY LLC REPUTED OWNERS TAX ID 30J7-2-19J

JESSICA S. CALARCO REPUTED OWNERS TAX ID 30J7-2-71

MICHAEL M. JR. DESANTI REPUTED OWNERS TAX ID 30J7-3-20

REMA HALL REPUTED OWNERS TAX ID 30J7-3-21

IDRISSA DIALLO REPUTED OWNERS TAX ID 30J7-3-52

CHRISTOPHER A. SHIYAM REPUTED OWNERS TAX ID 30J7-3-53

PETER DRIVE

DELAFIELD DRIVE

MORDELLA ROAD

Highway Boundary (Approximate)

Install new crosswalk (typ.)

Install raised crosswalk and mid-block advanced warning signs

Install 800' of new sidewalk to connect to Forest Park Elementary

MATCHLINE - SEE THIS SHEET

MATCHLINE - SEE SHEET NO. 4

NORTH

SAND CREEK ROAD

Existing sidewalks to remain

Begin new sidewalks and tie into existing

Existing sidewalks to remain

Highway Boundary (Approximate)

13'-0" SHARED USE TRAVEL LANE

13'-0" SHARED USE TRAVEL LANE

6'-0" SHOULDER

2'-0" GRASS BUFFER

RUTH D. HARDING REPUTED OWNERS TAX ID 30J7.4-12

KEVIN S. HOAGLAND REPUTED OWNERS TAX ID 30J7.4-13

RICHARD KENDALL REPUTED OWNERS TAX ID 30J7.4-14

VILLAGE OF COLONIE REPUTED OWNERS TAX ID 30J7.4-15.2

TIMOTHY M. BAUER REPUTED OWNERS TAX ID 42.5-3-1

JAMES HULBURIAN REPUTED OWNERS TAX ID 42.5-3-2

BRIAN K. STERLING REPUTED OWNERS TAX ID 42.5-3-3

ZACHARY SANZO REPUTED OWNERS TAX ID 42.5-3-4

ALDIN MUJKIC REPUTED OWNERS TAX ID 42.5-3-5

LOVELY GERONIMO REPUTED OWNERS TAX ID 42.5-3-6

THOMAS A. SZESNAT REPUTED OWNERS TAX ID 42.5-3-7

CHRISTOPHER A. SHIYAM REPUTED OWNERS TAX ID 30J7-3-53

MICHAEL PATRICK ROBILOTTI REPUTED OWNERS TAX ID 30J7-3-55

STEPHANIE L. BOARDWAY REPUTED OWNERS TAX ID 30J7-3-56

JAMIE THOMPSON REPUTED OWNERS TAX ID 30J7-3-57

PETER JR. LUIZZI REPUTED OWNERS TAX ID 30J7-3-64

ALEX M. JR. PONTINO REPUTED OWNERS TAX ID 42.5-2-1

DANIEL T. WHELAND REPUTED OWNERS TAX ID 42.5-2-35

FREDERICK W. III BAUER REPUTED OWNERS TAX ID 42.5-2-36

NASAR/SHAFQUAT HAMEED (LE) REPUTED OWNERS TAX ID 42.5-2-91

KYLE M. HERB REPUTED OWNERS TAX ID 42.5-2-92

JUDITH C. O'HEARN REPUTED OWNERS TAX ID 42.5-2-90

TERRY COURT

MYERS COURT

SPACE BOULEVARD

LEGEND

- New Pavement
- New Concrete Sidewalk
- New Multi-Use Path
- Grass Area
- Driveways

40 0 40 80 120 160

1" = 80'

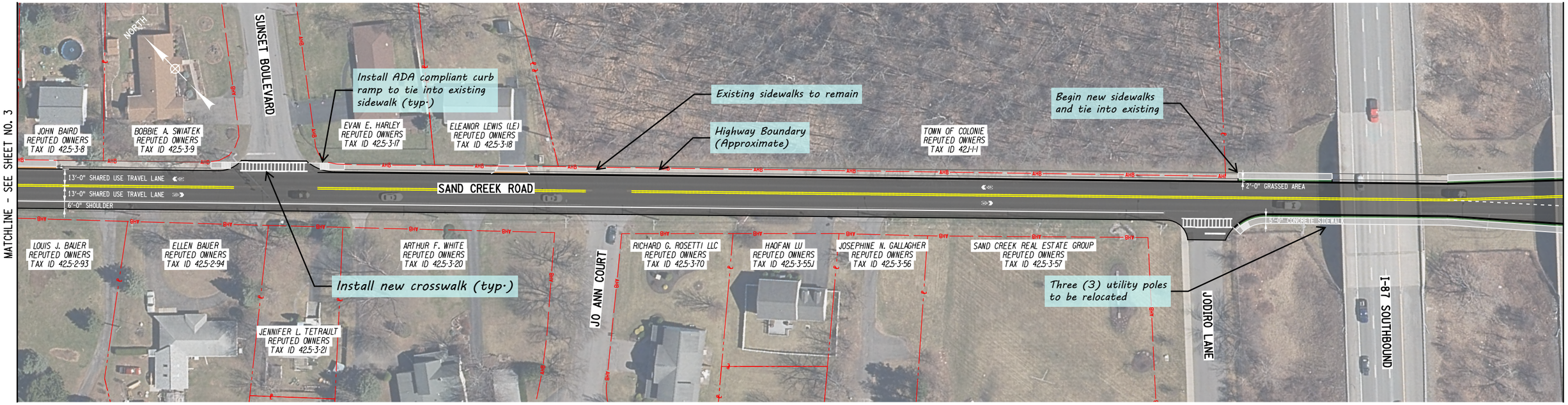
VILLAGE OF COLONIE SAND CREEK ROAD COMPLETE STREETS CONCEPT STUDY

CONCEPTUAL PLAN - SHEET NO. 3

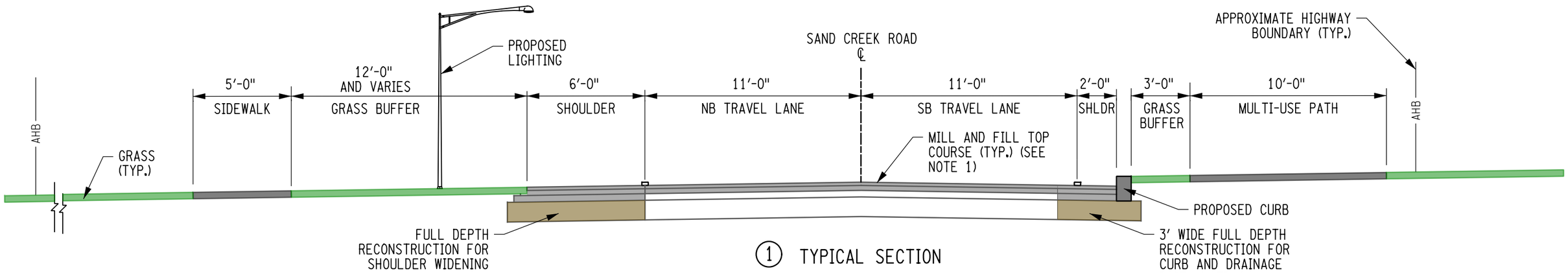
CAPITAL REGION Transportation Council

Engineering and Land Surveying, P.C.

Village of Colonie



CAPITAL REGION Transportation Council
Engineering and Land Surveying, P.C.
Village of Colonie



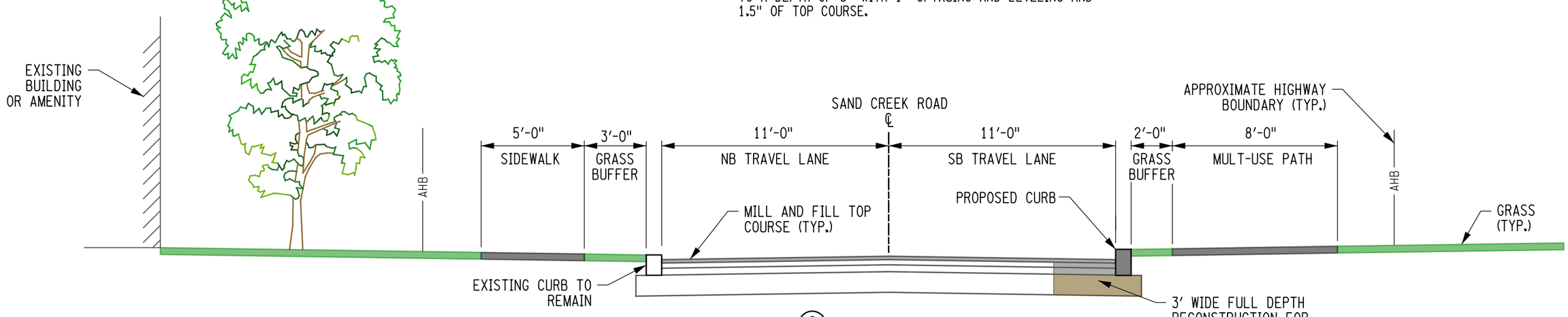
① TYPICAL SECTION

SAND CREEK ROAD - WATERVLIET SHAKER ROAD TO SHAKER RUN

SCALE 1" = 5'-0"

NOTES:

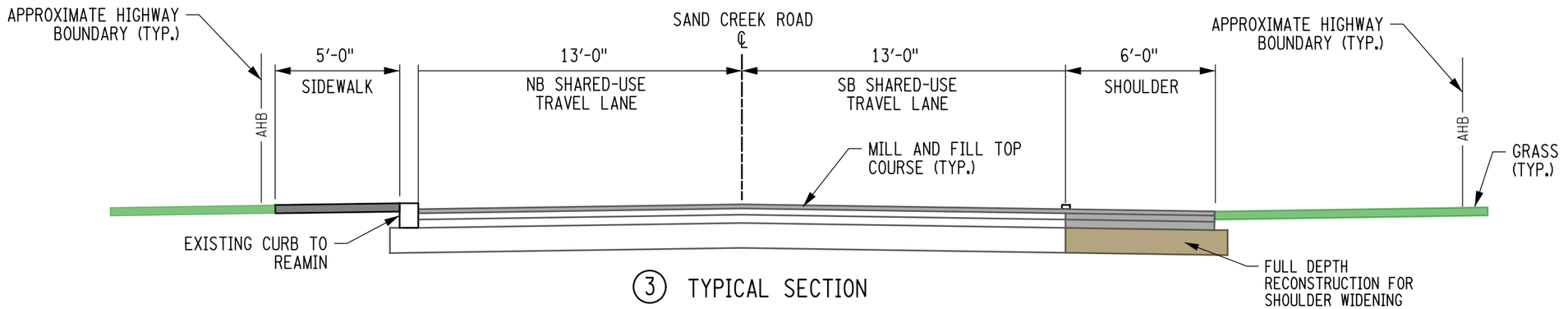
1. THIS SECTION OF SAND CREEK ROAD SHALL BE MILLED TO A DEPTH OF 3" WITH 1" OFTRUING AND LEVELING AND 1.5" OF TOP COURSE.



② TYPICAL SECTION

SAND CREEK ROAD - SHAKER RUN TO MORDELLA ROAD

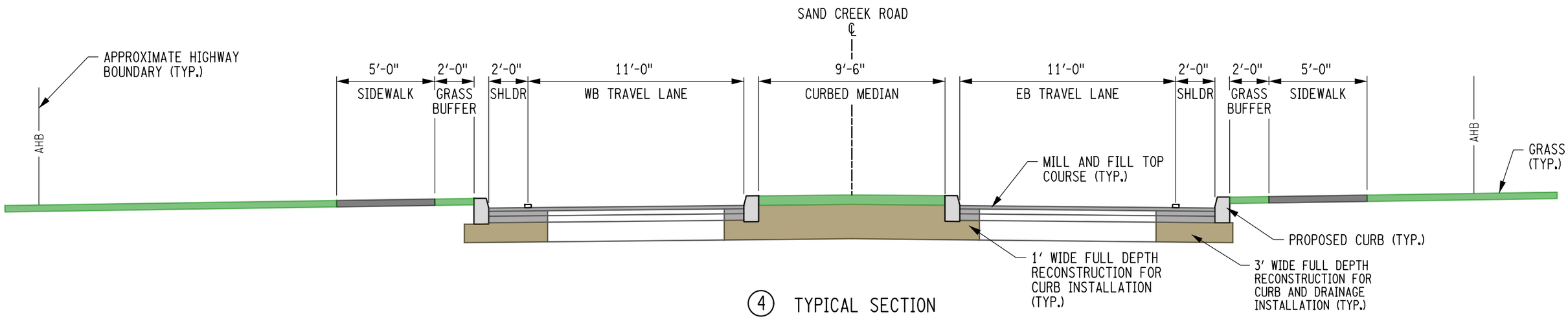
SCALE 1" = 5'-0"



③ TYPICAL SECTION

SAND CREEK ROAD - MORDELLA ROAD TO COMPUTER DRIVE SOUTH

SCALE 1" = 5'-0"



④ TYPICAL SECTION

SAND CREEK ROAD - COMPUTER DRIVE SOUTH TO WOLF ROAD

SCALE 1" = 5'-0"

2.5 0 2.5 5 7.5 10

1" = 5'

APPENDIX H

COST ESTIMATES

Sand Creek Road Cost Summary
Watervliet Shaker Road to Shaker Run (Segment 1)

Recommended Improvements		Cost
Sidewalks concrete sidewalks, curb ramps, detectable warning units, striping, grass restoration, driveway apron reconstruction		$333,000
Multi-Use Path asphalt path, curb ramps, detectable warning units, grass restoration, driveway apron reconstruction		$416,000
Pavement Rehabilitation shoulder reconstruction, resurfacing, curb installation[1], striping		$945,000
Pedestrian Signals & Midblock Crossings pedestrian signal heads, push buttons, signs, raised crosswalks, rectangular rapid flashing beacon assemblies		$50,000
Traffic Signals traffic signal modifications, new controller and cabinet		$50,000
Drainage Improvements new & replacement drainage structures & pipes		$391,000
Roadway Lighting light fixtures, light poles, foundations, conduit, wire, pull boxes, photoelectric control equipment		$375,000
Corridor Enhancements landscaping, gateway features, pedestrian & bicycle amenities		$25,000
	Construction Sub-Total	$2,585,000
Construction Costs[2]	Work Zone Traffic Control (5%)	$129,250
	Survey (2%)	$51,700
	Mobilization (4%)	$110,638
	Contingency (30%)	$862,976
	2023 Construction Total	**$3,739,564**
Construction Inspection &	CI (9%)	$336,561
Design (Preliminary and Final) Costs[2]	Design (15%)	$560,935
	GRAND TOTAL	**$4,637,060**
	SAY	**$4,640,000**

Notes:

1. It has been assumed that the existing cross slopes of Sand Creek Road would be maintained and curb would only be replaced in areas exhibiting deterioration.
2. The percentages listed are based on standard values indicated on grant applications.
3. ROW acquisition and incidental costs are not included in this estimate.
4. NYSDOT cost estimate tools were utilized to determine the roadway lighting and pedestrian signal construction costs.

Sand Creek Road Cost Summary
Shaker Run to Mordella Road (Segment 2)

Recommended Improvements		Cost
Sidewalks concrete sidewalks, curb ramps, detectable warning units, striping, grass restoration, driveway apron reconstruction		$181,000
Multi-Use Path asphalt path, curb ramps, detectable warning units, grass restoration, driveway apron reconstruction		$255,000
Pavement Rehabilitation shoulder reconstruction, resurfacing, curb installation[1], striping		$653,000
Midblock Crossings raised crosswalks, rectangular rapid flashing beacon assemblies		$30,000
Drainage Improvements new & replacement drainage structures & pipes		$302,000
Corridor Enhancements trailhead signage, pedestrian & bicycle amenities		$15,000
	Construction Sub-Total	$1,436,000
Construction Costs[2]	Work Zone Traffic Control (5%)	$71,800
	Survey (2%)	$28,720
	Mobilization (4%)	$61,461
	Contingency (30%)	$479,394
	2023 Construction Total	**$2,077,375**
Construction Inspection & Design (Preliminary and Final) Costs[2]	CI (9%)	$186,964
	Design (15%)	$311,606
	GRAND TOTAL	**$2,575,945**
	SAY	**$2,580,000**

Notes:

1. It has been assumed that the existing cross slopes of Sand Creek Road would be maintained and curb would only be replaced in areas exhibiting deterioration.
2. The percentages listed are based on standard values indicated on grant applications.
3. ROW acquisition and incidental costs are not included in this estimate.
4. NYSDOT cost estimate tools were utilized to determine the roadway lighting and pedestrian signal construction costs.

Sand Creek Road Cost Summary
Mordella Road to Jodiro Lane (Segment 3)

Recommended Improvements		Cost
Sidewalks concrete sidewalks, curb ramps, detectable warning units, striping, grass restoration, driveway apron reconstruction		$52,000
Shared Use Lanes striping, signs		$10,000
Pavement Rehabilitation shoulder reconstruction, resurfacing, striping		$619,000
Pedestrian Signals pedestrian signal heads, push buttons, signs		$10,000
Traffic Signals traffic signal modifications		$40,000
	Construction Sub-Total	$731,000
Construction Costs[1]	Work Zone Traffic Control (5%)	$36,550
	Survey (2%)	$14,620
	Mobilization (4%)	$31,287
	Contingency (30%)	$244,037
	2023 Construction Total	**$1,057,494**
Construction Inspection &	CI (9%)	$95,174
Design (Preliminary and Final) Costs[1]	Design (15%)	$158,624
	GRAND TOTAL	**$1,311,292**
	SAY	**$1,320,000**

Notes:

1. It has been assumed that the existing cross slopes of Sand Creek Road would be maintained and curb would only be replaced in areas exhibiting deterioration.
2. The percentages listed are based on standard values indicated on grant applications.
3. ROW acquisition and incidental costs are not included in this estimate.
4. NYSDOT cost estimate tools were utilized to determine the roadway lighting and pedestrian signal construction costs.

Sand Creek Road Cost Summary
Jodiro Lane to Wolf Road (Segment 4)

Recommended Improvements		Cost
Sidewalks concrete sidewalks, curb ramps, detectable warning units, striping, grass restoration, driveway apron reconstruction		$236,000
Shared Use Lanes striping, signs		$5,000
Pavement Rehabilitation & Curbed Median shoulder reconstruction, resurfacing, curb installation[1], striping		$556,000
Pedestrian Signals & Midblock Crossings pedestrian signal heads, push buttons, signs, raised crosswalks, rectangular rapid flashing beacon assemblies		$60,000
Traffic Signals traffic signal modifications		$20,000
Drainage Improvements new & replacement drainage structures & pipes		$276,000
Corridor Enhancements landscaping, gateway features, pedestrian & bicycle amenities		$40,000
	Construction Sub-Total	$1,193,000
Construction Costs[2]	Work Zone Traffic Control (5%)	$59,650
	Survey (2%)	$23,860
	Mobilization (4%)	$51,060
	Contingency (30%)	$398,271
	2023 Construction Total	**$1,725,842**
Construction Inspection &	CI (9%)	$155,326
Design (Preliminary and Final) Costs[2]	Design (15%)	$258,876
	GRAND TOTAL	**$2,140,043**
	SAY	**$2,150,000**

Notes:

1. It has been assumed that the existing cross slopes of Sand Creek Road would be maintained and curb would only be replaced in areas exhibiting deterioration.
2. The percentages listed are based on standard values indicated on grant applications.
3. ROW acquisition and incidental costs are not included in this estimate.
4. NYSDOT cost estimate tools were utilized to determine the roadway lighting and pedestrian signal construction costs.