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City of Rochester Mount Read Boulevard Corridor Study NYS Route 33 (Buffalo Road) to Stone Road

City of Rochester and Town of Greece
Monroe County
New York
Project ID 124464, UPWP Task No. 7574

Final Report



City of Rochester Department of Environmental Services

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Mount Read Boulevard Corridor Study

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Executive Summary

Mount Read Boulevard, between Buffalo Road and Stone Road, was built in the 1950's and 60's as an industrial bypass. It was designed to carry traffic to and from growing areas on the City of Rochester's northwest side. By the time the corridor was filled with industrial and residential activity, the community saw the advent of the NYS Route 390 expressway just a few miles west. That roadway would eventually allow for quicker trips to more distant destinations, siphoning development, traffic, and activity away from Mount Read Boulevard. This reduced the corridor's attractiveness to residents, businesses, and industry. Recently the corridor has experienced a resurgence, with diminishing vacancy rates, increased employment, and interest in redevelopment.

The City of Rochester recognizes that the Mount Read Boulevard corridor will continue to play a pivotal role in the region's economy as home to both established businesses and fresh new ventures. The City also recognizes that an aging infrastructure and problematic design features could hamper the potential for future growth and investment. Therefore, it has partnered with the New York State Department of Transportation, Monroe County Department of Transportation, Town of Greece, and Genesee Transportation Council to contemplate a long term plan for the facility.

This study is the first step toward the eventual design and construction of transportation improvements that both address the corridor's needs and support the community's desires. It presents a cohesive plan, respectful of the different needs exhibited in different parts of this 4.4 mile long corridor. The plan was developed in close coordination with the New York State Department of Transportation and Monroe County Department of Transportation, the owners of the facility, to ensure viability of the proposed concepts. While it is reasonable to expect that the vision plan will evolve between now and the time a project is (or multiple projects are) implemented, this document presents a unified starting point.

Public outreach and community participation were integral components of the study. The City engaged its project partners, local business leaders, neighborhood groups, residents, and the public. A Project Advisory Committee (PAC) was formed, stakeholder interviews took place, focus group meetings were held, and the general public was given two separate opportunities to provide input and influence the study's direction.

Based upon the data collected and outreach activities, the objectives of a future project or projects would be to:

- Support continued economic growth by improving mobility, operations, safety, and aesthetics.
- Encourage the use of alternative modes of transportation, such as walking, bicycling, and transit by improving pedestrian and bicyclist connectivity and incorporating appropriate design features that provide safer, accessible crossing opportunities.
- Provide appropriately scaled, cost effective aesthetic improvements that can be maintained with a reasonable amount of future effort such that they will retain their value to the community.
- Establish a gateway between the City of Rochester and Town of Greece that announces the transition from an industrialized and commercial area to a suburban, residential community.



Notable deficiencies along the corridor include:

- Poor pavement surface conditions, particularly at the southern end of the corridor.
- Lighting, traffic signal systems, and guiderail that are beyond their useful service life.
- A lack of accessible pedestrian accommodations, including crossings of Mount Read Boulevard.
- Conditions that inhibit truck mobility (turns) to and from Mount Read Boulevard.
- Accident “hot spots” that result from complex combinations of geometry and traffic control.
- Traffic congestion at select locations during peak periods.

The corridor vision plan, illustrated in Exhibit E.1, suggests a set of solutions to address identified safety, operational, infrastructure, mobility, and multimodal deficiencies along the Mount Read Boulevard corridor. While there is great potential for new development and redevelopment along the corridor, particularly between Lexington Avenue and Driving Park Avenue, the capacity of the Mount Read Boulevard corridor to carry traffic will eventually become a limiting factor in the absence of other strategies including the development of alternate access, transportation demand management, public transit, etc.

Under the vision plan, no location along Mount Read Boulevard would have fewer than two through travel lanes in each direction. Peak hour traffic operations would be balanced with the accommodation of pedestrian and bicyclist traffic, where applicable. The majority of the proposed improvements would fit within the footprint of the existing facility. No bridge replacements are anticipated. Highlights include:

- Conversion of the NYS Route 33 (Buffalo Road) traffic circle into a modern roundabout to address accidents, confusing traffic control, and improve pedestrian accommodation.
- Removal of the existing concrete median between Buffalo Road and I-490 and between I-490 and NYS Route 31 (Lyll Avenue). Two concepts remain for further consideration. Both would reduce Mount Read Boulevard to two through travel lanes in each direction, include a 5 ft wide bicycle lane in each direction, and fit primarily within the footprint of the existing facility. The preferred concept would include a center two-way left turn lane for safer and more convenient access into adjacent properties. An alternate concept would trade that center turn lane for curb parking lanes that would accommodate on-street parking except where interrupted by driveways.
- Reconstruction of the curbing in the corners at Lyell Avenue to allow trucks to complete turns within their own lane. Pedestrian crossings would be highlighted. New traffic signal equipment would also be installed allowing greater flexibility to deal with changes in vehicular, bicyclist, and pedestrian flow that occur between peak and off-peak hours.
- Modification of Mount Read Boulevard from Lyell Avenue to Driving Park Avenue to remove troublesome Outer Drive connections at signalized intersections and enhance safety. Pedestrian, bicyclist, and transit accommodation would also be improved with new dedicated crossings and possibly bicycle lanes. *Particularly between Lexington Avenue and Driving Park Avenue, transportation improvements alone will not be able to fully address all safety, access, and mobility concerns in this section of the corridor. This segment would benefit from a coordinated land use development and access plan.*



- Modification of short on and off ramps found between Driving Park Avenue and the NYS Route 104 (West Ridge Road) interchange to improve safety. While there are different ways this could be accomplished, the common goal in each case would be to provide more room to maneuver safely without sacrificing accessibility.
- Changes to roadway character north of West Ridge Road that help signify entry into the Town of Greece. The median would be narrowed and sidewalks, landscaping, and lighting would be added to reinforce the change.
- Replacements and/or upgrades to traffic signal equipment and lighting.

Varying levels of additional data collection, traffic study, property acquisition, environmental mitigation, utility relocation, and business coordination would be required to realize the improvements suggested in the corridor vision plan.

Given the scope of proposed changes, the plan is likely to be implemented in stages over the next 20 years. A total of 6 distinct possible stages have been identified. The actual order of the stages could vary depending on the prioritization of need and funding availability. A planning level opinion of probable construction cost was developed for each phase of the plan. These estimates include contingencies, but do not cover environmental mitigation or remediation, access modifications to adjacent properties, or detailed utility relocations as significantly more detail would be necessary to accurately forecast those costs. Engineering and other administrative costs are also not included in the figures cited here. The anticipated cost per construction stage is summarized below. The total estimated construction cost is \$47.3 million (M) dollars.

- A. Buffalo Road Intersection (\$2.0 M)
- B. Buffalo Road to Lyell Avenue (\$7.3 M)
- C. Lyell Avenue Intersection (\$3.5 M)
- D. Lyell Avenue to Driving Park Avenue (\$22.9 M)
- E. Driving Park Avenue to West Ridge Road (\$7.6 M)
- F. West Ridge Road to Stone Road (\$4.0 M)

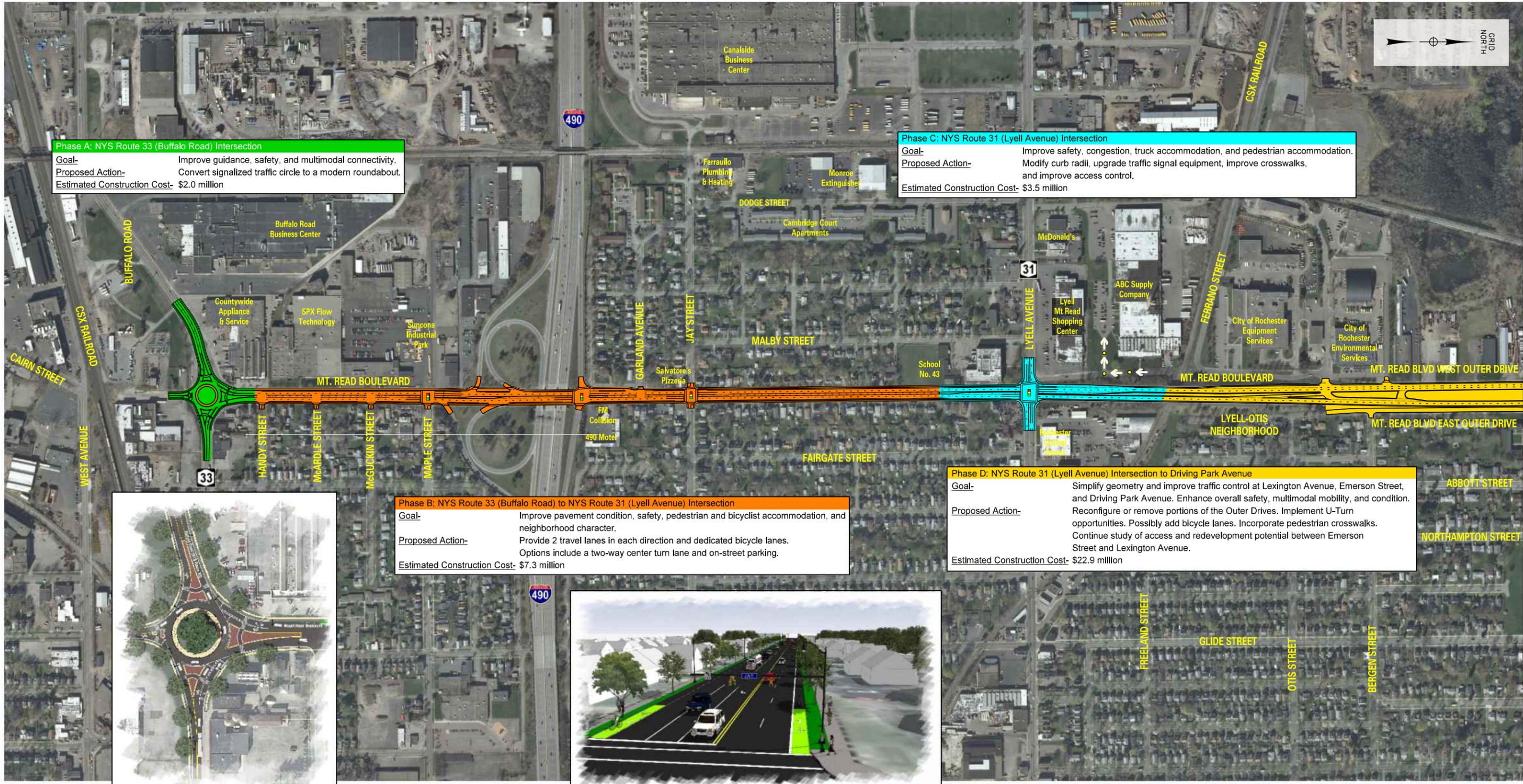
Possible funding sources, depending on the scope of improvements included in any given stage, might include the Federal Highway Administration's Highway Safety Improvement Program, Surface Transportation Program, or National Highway Performance Program. Public/Private/Partnerships could be another source of possible revenue as redevelopment continues to occur throughout the corridor.

At this time, there are no projects programmed for the corridor beyond routine maintenance activities. The next step would be to set priorities and program a project or projects on one of a variety of capital expenditure programs possibly including the Regional or Statewide Transportation Improvement Program (federally funded), New York State transportation funding (non-federally funded), the Monroe County Capital Improvement Program, and/or the City of Rochester's Capital Improvement Program. Typically scoping, preliminary design, detailed design, bidding, and construction phases would follow, although alternate forms of project delivery such as Design Build might also be considered.

It is likely that the New York State Department of Transportation and/or Monroe County Department of Transportation, as primary owners of the facility, would lead any future project or projects. The City of Rochester would remain involved both as owner of the Outer Drives and as an advisor throughout any



future phases of project development. The Town of Greece, as owner of a short segment of Old Mount Read Boulevard at the northern end of the study corridor, might also opt to take on a leadership role for some part at some time. This study provides the City of Rochester and its project partners with the information necessary to shape the future of the Mount Read Boulevard Corridor.



Phase A: NYS Route 33 (Buffalo Road) Intersection
Goal- Improve guidance, safety, and multimodal connectivity.
Proposed Action- Convert signalized traffic circle to a modern roundabout.
Estimated Construction Cost- \$2.0 million

Phase C: NYS Route 31 (Lyell Avenue) Intersection
Goal- Improve safety, congestion, traffic accommodation, and pedestrian accommodation.
Proposed Action- Modify curb radii, upgrade traffic signal equipment, improve crosswalks, and improve access control.
Estimated Construction Cost- \$3.5 million

Phase B: NYS Route 33 (Buffalo Road) to NYS Route 31 (Lyell Avenue) Intersection
Goal- Improve pavement condition, safety, pedestrian and bicyclist accommodation, and neighborhood character.
Proposed Action- Provide 2 travel lanes in each direction and dedicated bicycle lanes. Options include a two-way center turn lane and on-street parking.
Estimated Construction Cost- \$7.3 million

Phase D: NYS Route 31 (Lyell Avenue) Intersection to Driving Park Avenue
Goal- Simplify geometry and improve traffic control at Lexington Avenue, Emerson Street, and Driving Park Avenue. Enhance overall safety, multimodal mobility, and condition.
Proposed Action- Reconfigure or remove portions of the Outer Drives. Implement U-Turn opportunities. Possibly add bicycle lanes. Incorporate pedestrian crosswalks. Continue study of access and redevelopment potential between Emerson Street and Lexington Avenue.
Estimated Construction Cost- \$22.9 million



NOTE: ALL PHASES INVOLVE TRAFFIC SIGNAL AND LIGHTING REPLACEMENTS.

Basic Facts:	
Corridor:	Mount Read Boulevard
Ownership:	New York State Department of Transportation, Monroe County Department of Transportation, City of Rochester, and Town of Greece.
Limits:	NYS Route 33 (Buffalo Road) in the City of Rochester to Stone Road in the Town of Greece.
Length:	4.4 miles
Original Construction:	1950's and 1960's
Issues:	Aging infrastructure and problematic design features could hamper future redevelopment.
Goals:	Support continued economic growth. Improve mobility, operations, safety, and aesthetics. Improve pedestrian, bicyclist, and transit accommodation.

EXHIBIT E.1

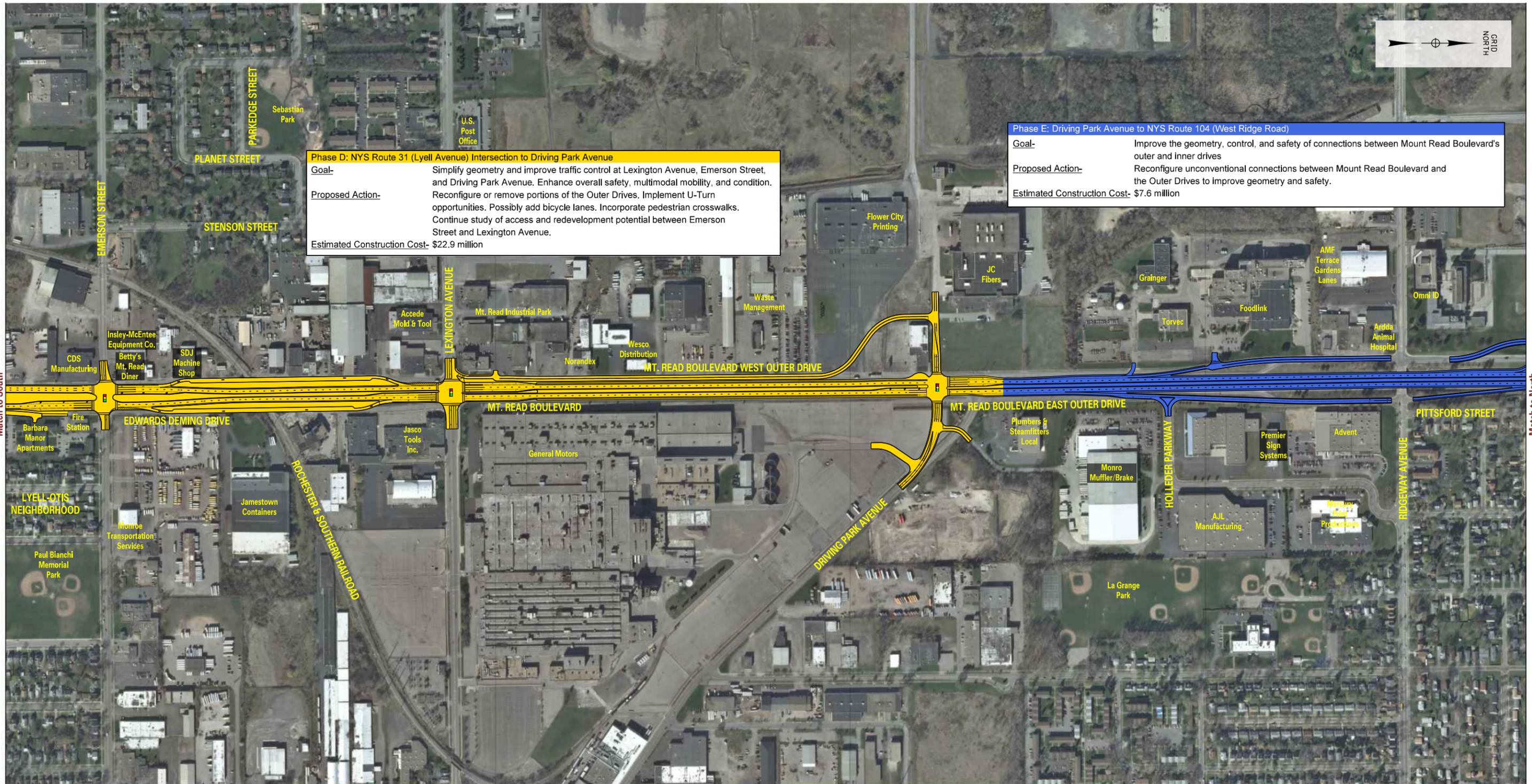
MOUNT READ BOULEVARD CORRIDOR VISION PLAN

NYS Route 33 (Buffalo Road) to Stone Road

October 2014

SOUTH - NYS Route 33 (Buffalo Road) to Bergen Street

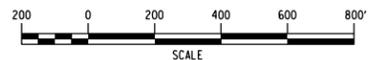


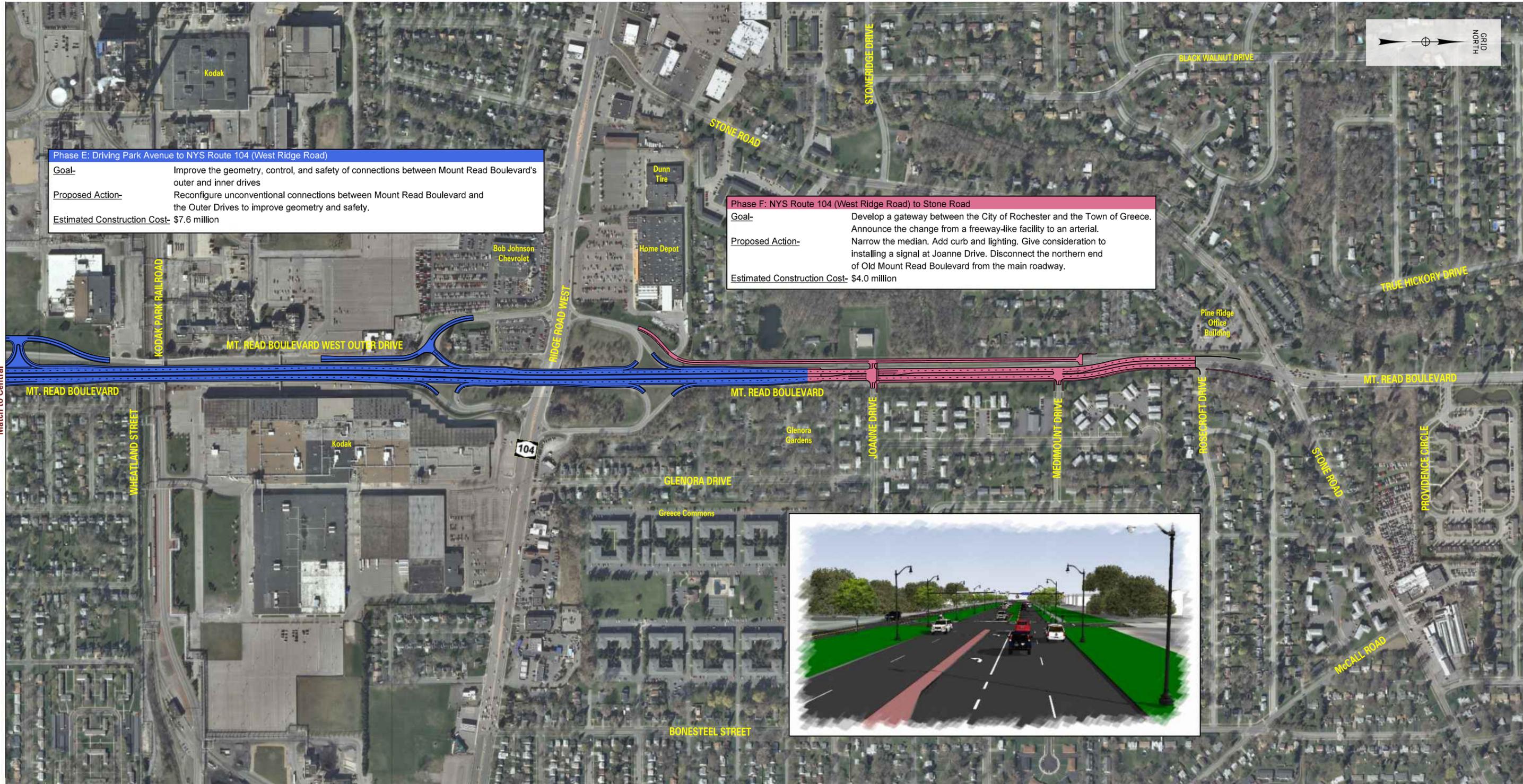


NOTE: ALL PHASES INVOLVE TRAFFIC SIGNAL AND LIGHTING REPLACEMENTS.

EXHIBIT E.1
MOUNT READ BOULEVARD CORRIDOR VISION PLAN
 NYS Route 33 (Buffalo Road) to Stone Road
 October 2014

CENTRAL - Emerson Street to Ridgeway Avenue





Phase E: Driving Park Avenue to NYS Route 104 (West Ridge Road)

Goal- Improve the geometry, control, and safety of connections between Mount Read Boulevard's outer and inner drives

Proposed Action- Reconfigure unconventional connections between Mount Read Boulevard and the Outer Drives to improve geometry and safety.

Estimated Construction Cost- \$7.6 million

Phase F: NYS Route 104 (West Ridge Road) to Stone Road

Goal- Develop a gateway between the City of Rochester and the Town of Greece. Announce the change from a freeway-like facility to an arterial.

Proposed Action- Narrow the median. Add curb and lighting. Give consideration to installing a signal at Joanne Drive. Disconnect the northern end of Old Mount Read Boulevard from the main roadway.

Estimated Construction Cost- \$4.0 million



NOTE: ALL PHASES INVOLVE TRAFFIC SIGNAL AND LIGHTING REPLACEMENTS.

EXHIBIT E.1
MOUNT READ BOULEVARD CORRIDOR VISION PLAN
 NYS Route 33 (Buffalo Road) to Stone Road
 October 2014

NORTH - Wheatland Street to Stone Road





Section 1: Introduction

1.1 Introduction

The City of Rochester commissioned this study of the Mount Read Boulevard Corridor. Realizing that many infrastructure elements are reaching the end of their useful life, there are important safety and access concerns, and an opportunity exists to promote continued economic redevelopment, the City set forth toward a goal of producing a proactive, cohesive vision plan that will serve as a basis for the development of a future project or projects on Mount Read Boulevard. This study report is the culmination of that effort.

1.2 Study Corridor Location and Identification

The Mount Read Boulevard Corridor Study covers approximately 4.4 miles of unsigned New York State (NYS) Reference Route 940K and Monroe County Route 150 from the existing traffic circle at NYS Route 33 (Buffalo Road) in the City of Rochester to Stone Road in the Town of Greece, Monroe County. The urban arterial carries between 15,000 and 20,000 vehicles per day. A study location map and study area map are included as Exhibit 1.1(1) and 1.1(2) in Appendix A. The corridor is located on the City of Rochester's northwest side and in the southeast corner of the Town of Greece.

1.3 Project Need

Built in the 1950's and 60's as an industrial bypass highway, Mount Read Boulevard was designed to carry traffic to and from growing areas along the City of Rochester's northwest side. At the time of construction, it was considered a truly modern arterial. By the time the corridor was filled with industrial and residential activity, planners and engineers were looking a few miles west toward construction of the NYS Route 390 expressway. NYS Route 390 would eventually allow for quicker trips to more distant destinations and siphon development and traffic away from Mount Read Boulevard, which in turn reduced the corridor's attractiveness to homes and businesses.



Corridor Study Limits



Fortunately, the Mount Read Boulevard corridor has begun to experience resurgence, with diminishing vacancy rates and an increasing level of industrial and employment activity. It will continue to play a major role in the region’s economy as it is home to many large manufacturers including General Motors Components Holdings, LLC and Eastman Kodak as well as small, growing firms such as Torvec and Arista Power. Further, the City of Rochester continues to invest in redevelopment projects along the corridor as exemplified at the former Photech site. The corridor is a manufacturing and distribution hub for the region. It is the site of vital residential neighborhoods and busy School No. 43. It is home to roughly 15,000 residents within ¼ mile. Mount Read Boulevard is also important to commuters and is an integral piece of Rochester’s ground transportation network.

Aging infrastructure and problematic design features are hampering the potential for future growth and investment. As the City of Rochester, New York State Department of Transportation (NYSDOT), Monroe County Department of Transportation (MCDOT), Town of Greece, and Genesee Transportation Council (GTC) begin to contemplate the long-term outlook for the facility, they have recognized the necessity to identify the range of issues and opportunities present along the corridor. That is the first step toward the eventual design and construction of balanced transportation improvements to fit the community’s needs. This study is intended as the initial step toward the identification of funds, advancement of a project (or projects) to the Transportation Improvement Program, and ultimately the design and construction of meaningful improvements that suit the corridor.



Mount Read Boulevard South of I-490

1.4 Project Purpose and Objectives

At this early stage of development, it is envisioned that the purpose of a future project or projects would be to address identified transportation deficiencies along the Mount Read Boulevard Corridor in a way that ensures continued mobility for goods producing industries and other employers along the corridor while enhancing neighborhood character and multimodal accommodation. The following are additional project objectives:

- (1) Support continued economic growth by improving mobility, operations, safety, and aesthetics.
- (2) Encourage the use of alternative modes of transportation, such as walking, bicycling, and transit by improving pedestrian and bicyclist connectivity and incorporating appropriate design features that provide safer, accessible crossing opportunities.
- (3) Provide appropriately scaled, cost effective aesthetic improvements that can be maintained with a reasonable amount of future effort such that they will retain their value to the community.
- (4) Establish a gateway between the City of Rochester and Town of Greece that announces the transition from an industrialized and commercial area to a suburban, residential community.



1.5 Study Outline

The study began with a reconnaissance and data collection effort covering the entire study corridor. Existing conditions are summarized in Section 2. The study process also involved a cooperative effort that brought together a Project Advisory Committee (PAC) comprised of representatives from the City, New York State Department of Transportation (NYSDOT) Monroe County Department of Transportation (MCDOT), Town of Greece, and Genesee Transportation Council. This group actively participated in the study process. Public outreach was also conducted, including two public meetings. The outreach process is described in Section 3. Section 4 of this document outlines the vision plan and provides information regarding geometry, traffic control, suggested phasing, cost, and potential funding opportunities. Section 5 summarizes the overall findings of the study.

For additional information regarding this study or potential future projects along Mount Read Boulevard, please contact Erik Frisch, Transportation Specialist, with the City of Rochester Department of Environmental Services. Please refer to this as the Mount Read Boulevard Corridor Study in all correspondence.

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Section 2: Existing and Base Future Conditions

The existing and base future conditions component of the Mount Read Boulevard Corridor Study provides information necessary to establish an initial understanding of the needs and opportunities within the corridor. This section of the report documents existing conditions along the study corridor while identifying issues, constraints, and elements in need of improvement. Available data were gathered from numerous sources including the City of Rochester, New York State Department of Transportation (NYSDOT), Monroe County Department of Transportation (MCDOT), Town of Greece, utility agencies, and other community representatives. This information was supplemented by field observations and studies within the scope and timeframe of this study. Appropriate assumptions have been made where necessary and are documented in this section along with recommendations for future data collection efforts to improve the quality and volume of information needed as a project (or projects) moves forward.

2.1 Infrastructure

2.1.1 Classification

The study corridor covers 4.4 miles of Mount Read Boulevard from NYS Route 33 (Buffalo Road) in the City of Rochester to Stone Road in the Town of Greece. Identification and classification data for Mount Read Boulevard vary along the study corridor and are summarized in Exhibit 2.1.1.

Mount Read Boulevard is NYS Reference Route 940K from NYS Route 33 (Buffalo Road) to Joanne Drive. NYS Reference Routes are roadways that are owned and maintained by the New York State Department of Transportation (NYSDOT) but not signed as a touring route for the traveling public. North of that point, Mount Read Boulevard is Monroe County Route (CR) 150. The City of Rochester owns and maintains the Outer Drives. The Town of Greece owns and maintains Old Mount Read Boulevard. See Section 2.1.2 for additional details on ownership and maintenance responsibilities. The name “Mount Read Boulevard” was first given to a roadway in this corridor during the 1920’s when Nicholas Read donated land for what would become the northern part of the roadway. Its former name was Eddy Road.

Reference markers are small green signs that serve as location references. They are not mile markers, but are rather placed at roughly tenth of mile intervals along NYSDOT highways. The original purpose of the markers was to track accident history, but today they also help engineers and planners track or direct work along highways. Reference marker information is also used on accident reports. Reference marker numbers are assigned to Mount Read Boulevard within the section owned and maintained by the NYSDOT.



Exhibit - 2.1.1 Identification and Classification Summary				
Segment	NYS Route 33 (Buffalo Road) to I-490	I-490 to Driving Park Avenue	Driving Park Avenue to NYS Route 104 (West Ridge Road)	NYS Route 104 (West Ridge Road) to Stone Road
Route Number	940K	940K	940K	940K and CR 150
Reference Marker	940K 43011000 to 43011002	940K 43011002 to 43011020	940K 43011020 to 43011036	940K 43011036 to 43012003*
Functional Classification	Urban Minor Arterial	Urban Principal Arterial - Other	Urban Principal Arterial - Other	Urban Minor Arterial
NHS	No	Yes	Yes	No
Qualifying or Access Highway	Access	Access	No	No

Notes:

1. NYSDOT Reference Markers end just south of Joanne Drive where jurisdiction switches to the MCDOT.
2. The Outer Drives are urban local roads, not on the NHS, and not Qualifying or Access Highways.

The functional classification of Mount Read Boulevard changes from segment to segment. Roadways are classified according to the character of service and travel function they provide. For example, freeways such as Interstate 390 (I-390) and NYS Route 390, move large volumes of traffic at high speeds with limited local access. Local roads and streets provide a great deal of access to properties while encouraging lower volumes and speeds. Arterials and collectors serve a purpose in between. Functional classification describes the importance of a particular road to the overall system and is critical in assigning priorities to projects and establishing appropriate highway design standards. Functional classification is also used to determine which roads are eligible for federal transportation program funds administered by the Federal Highway Administration (FHWA).

Mount Read Boulevard’s character changes significantly as one travels from south to north along the corridor. Regardless of its formal functional classification, it can be broken into four segments for the sake of this discussion. The segment from NYS Route 33 (Buffalo Road) to NYS Route 31 (Lyell Avenue) has the character of an urban arterial with multiple driveways and full side street access. Setbacks to neighboring buildings are generally small, lending to an urbanized feel.

North of Lyell Avenue, the facility transitions to that of an expressway (divided highway with partial control of access). Buildings are separated from the inner drives by the outer drives, divorcing the mainline from its surroundings and importing a wide open feel that encourages relatively high operating speeds.

Ramp connections, overhead guide signs, ground mounted exit signs and grade separated roadways move Mount Read Boulevard even closer to a freeway (fully controlled access) from just north of Driving Park Avenue through the NYS Route 104 (West Ridge Road) interchange.

North of West Ridge Road, Mount Read Boulevard transitions to a suburban arterial. Residential properties once again become part of the picture and their separation from the boulevard is less pronounced. A reduction in the width of the median and its eventual elimination near Stone Road completes the transition back to an urbanized, lower speed facility.

The United States Department of Transportation (USDOT) and FHWA have designated approximately 230,000 miles of roadways that are important to North America’s economy, defense, and mobility. This group is collectively known as the National Highway System (NHS). Along with the Interstates, this system



includes roadways in rural and urban areas that connect ports, airports, public transportation facilities, military bases, and other intermodal transportation facilities. Development of the NHS system was a cooperative effort involving the USDOT, state and local officials, and metropolitan planning organizations. It was enhanced (miles added) by the Moving Ahead for Progress in the 21st Century (MAP-21) legislation in 2012. Mount Read Boulevard is on the NHS between I-490 and NYS Route 104 (West Ridge Road) and it has been since 1996. No other segments are listed on the NHS.

In New York State, large trucks are required to travel on a network of highways that can physically accommodate them. This network consists of Qualifying and Access Highways. Special dimension vehicles, including tractor trailer combinations, auto carriers, etc., are allowed to travel on these highways. Mount Read Boulevard is classified as an Access Highway from NYS Route 33 (Buffalo Road) to Driving Park Avenue. Special dimension vehicles are allowed to use Mount Read Boulevard and its outer drives within these limits, but cannot travel beyond them (e.g., along intersecting roadways) for any distance unless that road is also an Access or Qualifying Highway.

2.1.2 Ownership and Maintenance Jurisdiction

Ownership and maintenance jurisdiction information was compiled from as-built drawings and correspondence with the NYSDOT, MCDOT, City of Rochester, and Town of Greece staff. More detailed research should be performed as a project (or projects) moves from the study stage into preliminary design.

Mount Read Boulevard is owned and maintained by the NYSDOT from NYS Route 33 (Buffalo Road) to Joanne Drive. State Highway numbers include 57-10, 50-5, 53-3P, 50-4, and 53-4P. All ramps, including those at the I-490 and NYS Route 104 (West Ridge Road) interchanges, are also owned and maintained by the NYSDOT. Mount Read Boulevard's outer drives are owned and maintained by the City of Rochester with one exception. Old Mount Read Boulevard from NYS Route 104 (West Ridge Road) to Medimount Drive along the west side of Mount Read Boulevard is owned and maintained by the Town of Greece. Mount Read Boulevard is owned and maintained by the MCDOT from Joanne Drive to Stone Road.

The I-490 bridge over Mount Read Boulevard, Mount Read Boulevard bridge over the CSX Railroad, Ridgeway Avenue bridge over Mount Read Boulevard, and NYS Route 104 (West Ridge Road) Bridge over Mount Read Boulevard are owned and maintained by the NYSDOT. The NYSDOT and Eastman Kodak Company share ownership and maintenance jurisdiction for the Mount Read Boulevard bridge over the Eastman Business Park Railroad. The Rochester and Southern Railroad owns the bridge carrying its tracks over Mount Read Boulevard. The City of Rochester owns and maintains the pedestrian bridge over Mount Read Boulevard at the Eastman Business Park within the highway boundaries. Eastman Kodak owns and maintains the remainder of the structure from the highway boundaries out. Eastman Kodak also owns and maintains its utility structure over Mount Read Boulevard.

The Lexington Avenue, Emerson Street, and Driving Park Avenue traffic signals are owned and maintained by the NYSDOT. All remaining signals, with the exception of the signal at Stone Road, are owned by the NYSDOT but maintained by the MCDOT. The Stone Road signal is both owned and maintained by the MCDOT.

Between Lyell Avenue and Medimount Drive the NYSDOT owns lighting poles, arms, foundations, pullboxes, and conduit while the MCDOT owns the fixtures and wiring. The MCDOT performs maintenance



on the system. The City of Rochester owns and maintains lighting along the outer drives and along mainline Mount Read Boulevard south of Lyell Avenue.

Sidewalks found along Mount Read Boulevard are owned and maintained by the City of Rochester.

2.1.3 Access Control

Highway boundaries (i.e. right-of-way lines) along Mount Read Boulevard are primarily classified as “with access.” Driveways can be directly connected to the road, however permits must be obtained for new driveway access points. There are limited segments of highway boundary “without access” at the I-490 and NYS Route 104 (West Ridge Road) interchanges. Driveway connections are not permissible within or adjacent to the “without access” limits.

Today there are driveways to Mount Read Boulevard’s mainline (inner drives) between NYS Route 33 (Buffalo Road) and I-490, between I-490 and NYS Route 31 (Lyell Avenue), and from just south of Joanne Drive to Stone Road. Driveways are only connected to the outer drives or adjacent local streets between NYS Route 31 (Lyell Avenue) and Joanne Drive. Access to Mount Read Boulevard’s inner drives is restricted to Ferrano Street, Emerson Street, Lexington Avenue, Driving Park Avenue and ramps (Ridgeway Avenue and NYS Route 104) within those same limits.

2.1.4 Typical Sections

The cross section of Mount Read Boulevard changes as one travels from south to north along the corridor. The corridor can however, be characterized by several “typical” sections as described in Exhibit 2.1.4(1). Existing roadway edges and lane layouts are illustrated on Exhibit 2.1.4(2) in Appendix A. The lane and shoulder widths listed below have been estimated from as-built drawings and aerial mapping. No photogrammetric or topographic surveys were performed for this study. It is anticipated that those efforts would be completed at the preliminary design stage and supplemented as necessary during detailed design.



**Exhibit - 2.1.4(1)
Summary of Typical Sections along Mount Read Boulevard**



NYS Route 33 (Buffalo Road) to I-490 Interchange

- One 11 ft inside travel lane and two 10 ft outside travel lanes in each direction
- 6 ft median (painted or 4 ft raised concrete with 1 ft offsets)
- Curbed edges
- 5 ft curb lawns (each side)
- 5 ft sidewalks (each side)



At the I-490 Interchange

- Two 11 ft travel lanes northbound
- Three 11 ft travel lanes southbound
- Painted median
- Curbed outside edges
- Curb lawns (each side) south of bridge
- 5 ft to 7 ft sidewalks



I-490 Interchange to NYS Route 31 (Lyell Avenue)

- One 11 ft inside travel lane and two 10 ft outside travel lanes southbound.
- One 11 ft inside travel lane and one 10 ft outside travel lane northbound at Jay Street
- One 11 ft inside travel lane and two 10 ft outside travel lanes northbound from Jay Street to Lyell Avenue.
- No standing allowed in vicinity of Jay Street intersection.
- 4 ft raised concrete median with 1 ft offsets
- Curbed edges
- 5 ft curb lawns (each side)
- 5 ft sidewalks (each side), 7 ft at School No. 43



NYS Route 31 (Lyell Avenue) to Emerson Street

- One 12 ft left travel lane and one 13 ft right travel lane in each direction
- 7 ft left shoulders and 10 ft right shoulders
- Variable width median and separation between inner and outer drives. Includes median barrier and guiderail sections.
- 24 ft outer drives (two-way)
- Curb and curb lawn to outside of outer drives
- 5 ft sidewalks outside of outer drives



Emerson Street to Lexington Avenue

- One 12 ft left travel lane and one 13 ft right travel lane in each direction
- 7 ft left shoulders and 1 ft offset to right side curb
- Variable width median and separation between inner and outer roadways. Includes median barrier and guiderail.
- 24 ft outer drives (two-way)
- Curb and curb lawn or paved snow storage to outside of both inner and outer drives
- 5 ft sidewalks outside of both inner and outer drives



Lexington Avenue to Driving Park Avenue

- One 12 ft left travel lane and one 13 ft right travel lane in each direction
- 7 ft left shoulders and 10 ft right shoulders
- +/- 16 ft grass median
- Variable width separation between inner and outer roadways. Includes median barrier and guiderail.
- 22 ft western outer roadway with concrete gutter on east side and curb on west side (two-way)
- Curb lawn or paved snow storage to west of western outer drive
- 5 ft sidewalk to west of western outer roadway
- 24 ft eastern outer drive limited to +/- 450 ft south of Driving Park Avenue (two-way)



Driving Park to Ridgeway

- One 12 ft left travel lane and one 13 ft right travel lane in each direction
- 7 ft left shoulders and 10 ft right shoulders
- +/- 16 ft grass median
- Variable width separation between inner and outer roadways. Includes median barrier and guiderail.
- 22 ft western outer drive with concrete gutter on east side and curb on west side (two-way)
- 26 ft eastern outer drive with curb on both sides (one-way northbound)
- Curb lawn and 4 ft sidewalk to the outside of each outer drive.



Ridgeway to NYS Route 104 (West Ridge Road)

- One 12 ft left travel lane and one 13 ft right travel lane in each direction
- 7-8 ft left shoulders and 10-13 ft right shoulders
- Variable width grass median
- Variable width separation between inner and outer drives. Includes median barrier and guiderail. Includes fencing along Eastman Kodak.
- 22-24 ft western outer roadway (two-way). Some curb, shoulder, and parking lanes.
- 5-7 ft sidewalk on the west side of the western outer drive.



NYS Route 104 (West Ridge Road) to Stone Road

- Two 11 ft lanes in each direction
- 7 ft left shoulders and 10 ft right shoulders south of Medimount Drive
- 1 ft left side curb offsets and 12 ft raised grass median north of Medimount Drive
- 16 ft grass separation between southbound inner drive and western outer drive (Old Mount Read Boulevard) (two-way operation). No eastern outer drive.
- Two lane, 20 ft wide outer drive on west side. Two foot shoulder along western side of outer drive.
- No sidewalk from NYS Route 104 to 215 ft north of Medimount Drive. 5 ft sidewalk along western side of Mount Read Boulevard from there to Stone Road.

A full analysis of features not meeting current NYSDOT highway design standards was not completed for this study. Existing elements such as lane width, shoulder width, weaving lengths, acceleration lane



lengths, deceleration lane lengths, and ramp radii appear deserving of review as part of a future project based on visual observations and engineering experience.

2.1.5 Pavement

Pavement surface condition scores and distress data documented in the NYSDOT 2010 Pavement Data Report are summarized in Exhibit 2.1.5 for the segments of Mount Read Boulevard owned and maintained by the NYSDOT. According to NYSDOT Records, the pavement on the inner drives consists of an asphalt overlay on a concrete base. Mount Read Boulevard was initially constructed in the form we see it today throughout the 1950’s and 1960’s. Since then, it has undergone a number of rehabilitation treatments. The most recent occurred in 2000-2001 and involved a 1 to 1 ½ inch asphalt overlay.

Exhibit - 2.1.5 Pavement Condition Summary			
From	To	Surface Score	Dominant Distress
NYS Route 33 (Buffalo Road)	I-490 Interchange ¹	Fair	General Alligator Cracking
I-490 Interchange	NYS Route 31 (Lyell Avenue)	Fair to Poor	General Alligator Cracking
NYS Route 31 (Lyell Avenue)	Lexington Avenue	Fair	Isolated Alligator Cracking
Lexington Avenue	NYS Route 104 (West Ridge Road)	Good	Isolated Alligator Cracking
NYS Route 104 (West Ridge Road)	Joanne Drive	Fair to Poor	Isolated Alligator Cracking
Joanne Drive	Stone Road	Good to Excellent ²	Cracking along the edge ²

1. Segment at I-490 Interchange reconstructed as part of the Western Gateway Project
2. Based on field observation in 2013. Resurfaced in 2010.

The dominant type of distress documented in 2010 was alligator cracking. Alligator cracking typically results from the repeated application of traffic loads on an asphalt (flexible) or composite (asphalt overlay on concrete) pavement. While it may initially appear as a single crack in a wheel path, as distress increases in severity and extent, the cracks typically form a pattern resembling an alligator’s hide. It is termed “isolated” when less than 20% of the affected roadway segment is affected and “general” otherwise. Visual observations in 2013 also noted the presence of wheel path rutting, particularly between Jay Street and NYS Route 31 (Lyell Avenue).

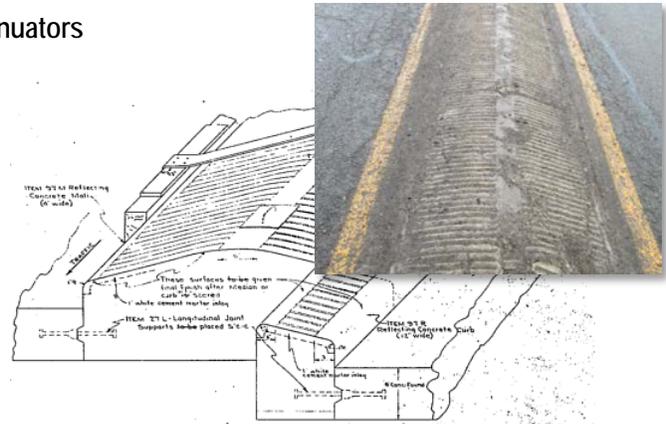
Pavement surface conditions along the Outer Drives vary from fair to good with various degrees of longitudinal and transverse cracking. No formal pavement maintenance records were available from the City of Rochester for these roadways.

Based on visual observation, the asphalt pavement surface along Mount Read Boulevard and its outer drive from Joanne Drive to Stone Road appears in good to excellent condition. This segment of Mount Read Boulevard was resurfaced in 2010. Pavement surface condition on the remainder of the outer drives varies widely throughout the corridor from good to poor. Where distressed, the surface exhibits cracking and potholes.



2.1.6 Guiderail, Median Barriers, and Impact Attenuators

There are no guiderail, barriers, or impact attenuators between NYS Route 33 (Buffalo Road) and NYS Route 31 (Lyell Avenue). Between NYS Route 33 (Buffalo Road) and McGuckin Street and from north of Jay Street to NYS Route 31 (Lyell Avenue), Mount Read Boulevard has a unique median treatment that dates back to its original construction. The feature is a 4 foot wide “reflecting concrete mall.” It consists of a concrete curb and median, coated with a white reflecting mortar in a scored pattern. Over the years this feature has lost much of its reflective properties and serves only as a physical separation between the northbound and southbound travel lanes. It remains in fair condition south of McGuckin Street. The northern segment leading up to Lyell Avenue is severely deteriorated with broken and missing concrete.



Concrete Reflecting Mall

North of NYS Route 31 (Lyell Avenue) the Mount Read Boulevard corridor includes weak post corrugated w-beam, box beam, and heavy post blocked-out corrugated beam guiderail and median barrier. This includes median barrier installed between the inner and outer drives. The barriers vary in condition from good to poor depending on location. Barriers were not checked for conformance with current standards, however median barriers with turned down end terminals rather than attenuating terminals were observed within the study limits. This condition would not meet current standards. There is one impact attenuator within the study corridor located at the southern end of the Mount Read Boulevard bridge over the Kodak Railroad. It is in excellent condition based on field conditions.



Various Barrier Treatments along Mount Read Boulevard

2.1.7 Drainage Systems

As of this time, there are no known specific drainage or flooding concerns along Mount Read Boulevard. Stormwater along Mount Read Boulevard is typically removed via a closed drainage system consisting of catch basins and underground storm sewer pipes. Based on record plan information, it appears that when constructed, many basins were connected to existing sewers which in turn means much of the system may be old and possibly in poor condition. North of NYS Route 31 (Lyell Avenue) the longitudinal storm sewers typically run either along one side of one of the outer roadways or down the median between the



inner roadways. There are also periodic sewer crossings at intersecting roadways. Based on record plan information, it appears that the locations of these facilities are reasonably well known. Additional exploration, including televising, may be helpful in determining the need for replacement of sewer trunk lines as part of any future project.

There are periodic field inlets in the median and island areas created by ramps at the Ridgeway Avenue and NYS Route 104 (West Ridge Road) interchanges. There are roadside ditches (segments of open drainage) along the eastern side of Mount Read Boulevard north of Joanne Drive. There are also concrete gutter sections with drop inlets along the west side of Mount Read Boulevard on approach to Stone Road and along the eastern edge of periodic segments of the western outer drive.

2.1.8 Structures

Bridge Identification

There are a total of eight bridges along Mount Read Boulevard within the study corridor. Two of the bridges carry Mount Read Boulevard over features (railroads) and the other six carry various features over Mount Read Boulevard (3 roadways, 1 pedestrian, 1 railroad and 1 utility bridge). Below is a listing of the bridges along the corridor from south to north with the corresponding Bridge Identification Number (BIN) and original year of construction:

- (a) BIN 1048729 – I-490 over Mount Read Boulevard (2009)
- (b) BIN 1049759 – Mount Read Boulevard over the CSX Railroad (1954)
- (c) BIN 7049760 – Rochester and Southern Railroad over Mount Read Boulevard (1954)
- (d) BIN 7049770 – Ridgeway Avenue over Mount Read Boulevard (1954)
- (e) BIN 1049789 – Mount Read Boulevard over the Kodak Railroad (2006)
- (f) BIN 2063840 – Steam line over Mount Read Boulevard (1969)
- (g) BIN 2052300 – Pedestrian Bridge over Mount Read Boulevard (1966)
- (h) BIN 1036469 – NYS Route 104 (West Ridge Road) over Mount Read Boulevard (2003)

Bridge Clearance

All but one of the six bridges over Mount Read Boulevard has vertical clearance from the low chord to the roadway which exceeds the NYSDOT minimum vertical clearance requirement of 14 ft per the NYSDOT Bridge Manual (Sections 2.4.1 and 2.4.2). The pedestrian bridge has a posted vertical clearance of 12'-2" which is less than the NYSDOT minimum standard of 15 ft.

Two of the bridges carry Mount Read Boulevard over railroads. Both of these bridges have vertical clearance from the low chord to top of rail that is less than the 22 ft minimum vertical clearance required by NYSDOT.

Bridge Condition

NYSDOT Condition Ratings and FHWA Sufficiency Ratings were obtained from public websites and are included in Exhibit 2.1.8 in Appendix C. These ratings can be used to gauge the overall condition of the bridges.

For each bridge statewide, NYSDOT provides an overall New York State "Condition Rating" by combining the inspection ratings of individual components using a weighted average formula. This formula assigns greater weights to the ratings of the bridge elements having the greatest structural importance and lesser



weights for minor structural and non-structural elements. If a bridge has multiple spans, each element common to the spans is rated and the lowest individual span element rating is used in the condition rating formula.

NYS DOT defines a deficient bridge as one with a “Condition Rating” less than 5.0. A deficient condition rating indicates deterioration at a level that requires corrective maintenance or rehabilitation to restore the bridge to its fully functional, non-deficient condition. It does not mean that the bridge is unsafe.

FHWA “Sufficiency Ratings” are intended to indicate a measure of the ability of a bridge to remain in service. The ratings are used by the Federal Highway Administration to select candidate bridges for the Highway Bridge Program. Calculations for Sufficiency Ratings utilize a formula that includes various factors determined during the bridge field inspection and evaluation. The rating is calculated based 55% on the structural evaluation, 30% on the obsolescence of its design, and 15% on its importance to the public.

Ratings are on a scale of 1 to 100, with 100 considered as an entirely sufficient bridge (usually new) while an entirely deficient bridge would receive a rating of 0. A score of 80 or less is required for federal repair funding and 50 or less for federal replacement funding. Only bridges that carry vehicular traffic receive a Sufficiency Rating.

NYS “Condition Ratings” and FHWA “Sufficiency Ratings” are available for the five bridges under NYS DOT ownership. All but one of these bridges have ratings very near or greater than the threshold ratings for deficiency/need of repair (e.g. Condition Rating greater than 5 and Sufficiency Rating greater than 80). The exception is the Ridgeway Avenue Bridge over Mount Read Boulevard (BIN 149770) which has a NYS Condition Rating of 4.08 and a Sufficiency Rating of 46.6. This bridge however is undergoing rehabilitation in 2014.

The privately owned railroad bridge (BIN 7049760), the privately owned steam line bridge (BIN 2063840) and the City owned pedestrian bridge (BIN 2052300) do not have published “Condition or Sufficiency Ratings” however all three of these bridges were constructed in the 1950’s and 60’s and exhibit deterioration typical for 50+ year old bridges.

Retaining Walls

Along the backside of the sidewalk under the I-490 Bridges over Mount Read Boulevard (BIN 1048729), segmental block walls retain the abutment slope fill. These walls were constructed with the bridge in 2009 and are in good condition.

Mount Read Boulevard is depressed below the Rochester and Southern Railroad Bridge however the sidewalk on both sides of the roadway is not. Short height concrete retaining walls with railing are present on both sides between the sidewalk and roadway. These walls are in poor condition with numerous areas of concrete spalling with exposed and corroded reinforcement.



Retaining Wall Deterioration



2.1.9 Lane Geometry and Traffic Control

Lane Geometry

Existing lane geometry along the Mount Read Boulevard corridor from Buffalo Road (NYS Route 33) to Stone Road is illustrated in Exhibit 2.1.4(2) in Appendix A. Traffic control at each intersection and interchange was inventoried and is also shown on Exhibit 2.1.4(2).

Traffic Signals

The intersections of the following roads with Mount Read Boulevard are signalized:

- NYS Route 33 (Buffalo Road)
- Maple Street
- I-490 Westbound Ramps
- Jay Street
- NYS Route 31 (Lyell Avenue)
- Emerson Street
- Lexington Avenue
- Driving Park Avenue
- Stone Road

The intersections of Mount Read Boulevard's outer drives with Ridgeway Avenue are also signalized. All signals are supported by spanwire and pole assemblies. Traffic signal equipment throughout the project limits, with the exception of that at the I-490 westbound ramps and Stone Road intersections, has been characterized by the NYSDOT and MCDOT as beyond its expected service life. Upgrades or replacements would be required to meet current Manual of Uniform Traffic Control Devices (MUTCD) standards for the number and placement of signal heads. Although the traffic signal equipment at the I-490 westbound ramps and Stone Road intersections is currently adequate, their condition could change in the future and signal equipment replacement may be needed. The existing signals between NYS Route 33 (Buffalo Road) and NYS Route 31 (Lyell Avenue) are interconnected to facilitate traffic flow. To the north, the signals at Emerson Street, Lexington Avenue, and Driving Park Avenue are time based coordinated. Traffic signals across the corridor, with the exception of those from I-490 to NYS Route 31 (Lyell Avenue) and at the Stone Road intersection lack pedestrian accommodations including push buttons and separate pedestrian signals. The red lights on Mount Read Boulevard at NYS Route 31 (Lyell Avenue) southbound, Emerson Street and Driving Park Avenue (southbound) are photo enforced using camera equipment owned and operated by the City of Rochester. All remaining connections are either controlled by stop signs, yield signs, or are free flowing as indicated on Exhibit 2.1.4(2).

Pavement Markings

As of the date of field observation in March of 2013, the pavement markings on Mount Read Boulevard were generally in good condition and visible. They are replaced on a regular cycle under NYSDOT and MCDOT pavement marking maintenance programs. Marking patterns generally appear to be in compliance with current MUTCD standards.

Signing

Signing condition varies from poor to excellent depending on the age of the individual assembly. Signs are also periodically replaced as they become damaged or reach the end of their service life. It is apparent based on visual observation that some signs, including overhead signs on sign structures at the NYS Route



104 (West Ridge Road) interchange and several in the median have been replaced. Specific signing elements throughout the corridor require updates to fully meet current MUTCD standards.

Intelligent Transportation Systems (ITS)

ITS features along Mount Read Boulevard are limited. There is an existing overhead CCTV camera at the intersection with NYS Route 31 (Lyell Avenue). Refer to the section on traffic signals for additional information on signal interconnection. There are no other ITS features along the corridor such as permanent count stations, weather information stations, motorist information system signs, or variable message signs.

There are ITS elements located outside the project study area and operated through the Regional Traffic Operations Center (RTOC) located adjacent to the Greater Rochester International Airport on NYS Route 383 (Scottsville Road) southwest of the Mount Read Boulevard corridor. The RTOC facility is jointly operated by the NYSDOT, MCDOT Monroe County Airport Authority and New York State Police. The facility serves as a centralized location to provide for complete detection and response capabilities for both the routine daily traffic as well as traffic incident management.

Contained within the facility is the Traffic Control Center where the majority of Monroe County's over 600 traffic signals can be monitored and controlled remotely via the Traffic Control System (TCS). The system measures and analyzes traffic conditions and automatically controls the timing of the traffic signals. Maintenance and dispatch of the existing signal system crews are also housed at the RTOC.

Parking Regulations

Parking is regulated differently as one travels along Mount Read Boulevard. The Segment from NYS Route 33 (Buffalo Road) to the I-490 interchange is signed for "no standing any time." "No standing" means that vehicles may only be stopped while actually loading or unloading passengers. There are also "no standing" regulations along the west side of the road from Garland Avenue to Jay Street and along the east side just north of Jay Street. "No parking," allowing drivers to stop to load or unload both passengers and merchandise but the vehicle cannot be left unattended, is posted along the west side of Mount Read Boulevard just north of Jay Street. Parking is not restricted along the remainder of the roadway between Jay Street and NYS Route 31 (Lyell Avenue). Parked cars are sporadically seen within the curb lane.

"No standing" is posted along the east side of Mount Read Boulevard on approach to NYS Route 31 (Lyell Avenue). From the hatched shoulder to the fenced in yard just south of School No. 43, the west side of the road is signed for "15 minute parking between 1:30 PM and 2:30 PM, Monday through Friday with flashers required." Members of the public have suggested that double parking occurs within this area during peak pick-up and drop-off times at School No. 43, posing a safety concern and resulting in congestion. The segment of curb lane along the fenced in school yard is signed for "no parking any time." There are no other posted parking regulations along Mount Read Boulevard's inner roadway.

There is a short segment of "no parking" along the west side of the western outer drive just south of Emerson Street. There are also "no parking" regulations posted along the eastern outer drive along the Jasco Tools frontage. The shoulder of Mount Read Boulevard's northbound inner roadway along the frontage of the Eastman Business Park was recently signed for "no parking." There is a "no stopping any time" sign just south of the taper for the northbound off-ramp to NYS Route 104 (West Ridge Road). There are also "no parking" regulations posted along the west side of the western outer roadway near the pedestrian bridge.



Speed

Measurements of operating speed were not made for this study. The posted speed limit along Mount Read Boulevard within the study corridor is as follows:

- NYS Route 33 (Buffalo Road) to NYS Route 31 (Lyell Avenue): 35 mph
- NYS Route 33 (Lyell Avenue) to NYS Route 104 (West Ridge Road): 45 mph
- NYS Route 104 (West Ridge Road to Stone Road): 35 mph

There is also a 25 mph posted speed limit along the western outer drive (Old Mount Read Boulevard) between the NYS Route 104 (West Ridge Road) interchange and its northern terminus.

Intersection Specific Comments

The NYS Route 33 (Buffalo Road) intersection is a signalized traffic circle (refer to Exhibit 2.1.4(2), sheet 1, in Appendix A). It is not a roundabout as modern roundabouts do not include traffic signals. Instead, modern roundabouts employ geometric curvature on the entries to control speed and require entering traffic to yield to that within the circulatory roadway. The combination of signals, poor signing, and lack of lane use markings at the traffic circle fails to provide clear direction, also sometimes called positive guidance, to motorists. A lack of positive guidance can lead to congestion and accidents. This location has been cited as a source of confusion by the public and an element in need of improvement.

The traffic signal program (phasing) at the intersection of Mount Read Boulevard with NYS Route 31 (Lyell Avenue) includes protected only left turn movements for all four approaches. This means that left turns are only allowed to move on a green arrow and cannot proceed during the circular green indication. According to the NYSDOT, this was originally instituted as a measure to enhance the safety of pedestrians using the crosswalks, especially students from School No. 43. While safety is enhanced, this configuration was noted as a source of delay and congestion. Right turns on red are also prohibited between the hours of 8:00 AM and 4:00 PM on school days. The existing traffic signal control equipment does not allow for an alternative operation plan, including permissive left turn movements during portions of the day when students are not prevalent.



Lyell Avenue Traffic Signal

As previously noted in Section 2.1.1, Mount Read Boulevard is classified as an Access Highway through the Driving Park Avenue intersection. It therefore functions as a critical link for truck traffic, including tractor trailers. NYS Route 31 (Lyell Avenue) is also a truck access highway and therefore truck turning movements are to be expected. Small curb radii on all four corners of the intersection make it difficult for large tractor trailer combinations, including those pulling a 53 ft trailer (WB-67) to complete a turn within their designated lane (Refer to Exhibit 2.1.4(2), Sheet 4, Appendix A). In particular, northbound right turning trucks have been observed to need both northbound lanes to complete their move without hitting the curb. Unexpected truck encroachments present a safety concern for both motorists and pedestrians at this location.



Turning Trucks at Lyell Avenue Intersection



There is a median break at Ferrano Street, the access road to the City’s Department of Environmental Services facilities, along the west side of Mount Read Boulevard (Refer to Exhibit 2.1.4(2), Sheet 5, Appendix A). This access has acceleration and deceleration (auxiliary) lanes on both northbound and southbound Mount Read Boulevard.

Mount Read Boulevard’s outer drives are in extremely close proximity (within 50 ft center to center) to the inner drives at the Emerson Street, Lexington Avenue, and Driving Park Avenue intersections (Refer to Exhibit 2.1.4(2), Sheets 6, 7, & 9, Appendix A). The outer drive approaches are controlled by stop signs while mainline Mount Read Boulevard and the side street approaches are controlled by the traffic signal. There are typically two sets of stop lines for the signals on the eastbound and westbound approaches, one on either side of the outer drives. The density of signage is high at each location. Drivers can see multiple messages, must determine which applies to them, and navigate properly while obeying the traffic signal indications and avoiding other traffic. This combination places a heavy load on drivers which can negatively impact safety and lead to accidents.



Example of Complex Traffic Control at Lexington Avenue

Trucks use the outer drives to access the various municipal, commercial, and industrial buildings located along Mount Read Boulevard. There is ample space for tractor trailer combinations to turn on to and off of the inner drives, however those same vehicles have difficulty completing their movements to the outer drives because the roadways are so close to each other.

There are several locations along Mount Read Boulevard where short ramp connections link the outer and inner drive. Some connections are controlled by yield signs while others have acceleration lanes. In general, storage space between the two roadways is limited. The application of stop and yield control also varies from location to location. This, combined with various segments of one-way and two-way travel on the outer drives, results in a confusing system of access to neighboring properties. The potential for stop and start movements and the mixing of traffic with different speeds elevates the potential for accidents (Refer to Exhibit 2.1.4(2), Sheets 7-9 & 11, Appendix A).

Ridgeway Avenue is indirectly connected to the inner drives of Mount Read Boulevard via the outer drives and short connector ramps except in the northeast quadrant. Access to northbound Mount Read



Boulevard from Ridgeway Avenue is provided by a direct on-ramp. In contrast, most connections between Mount Read Boulevard and NYS Route 104 (West Ridge Road) have the character of direct ramp roadways as the interchange takes the form of an urbanized cloverleaf. Only the ramps in the northwest quadrant are connected to an outer drive (Refer to Exhibit 2.1.4(2), Sheets 11, 13 & 14, Appendix A).

There is a median break at the first residential property connected to Mount Read Boulevard north of NYS Route 104 near the Monroe County Water Authority facility (Refer to Exhibit 2.1.4(2), Sheet 15, Appendix A). Joanne Drive, Medimount Drive, and Rosecroft Drive intersect Mount Read Boulevard at unsignalized intersections. Vehicles on these side streets must stop at the northbound lanes and then cross the median to complete a left turn. There are exclusive left turn lanes for traffic on Mount Read Boulevard at the unsignalized intersections within this segment.



Multiple Stages of a Left Turn from Joanne Drive

Stone Road intersects Mount Read Boulevard at a 60 degree angle (Refer to Exhibit 2.1.4(2), Sheet 16, Appendix A). The skew of the intersection requires turning roadways outside the control of the traffic signal in both the southwest and northeast quadrants. Both turning roadways are controlled by a yield sign where they meet Mount Read Boulevard. The traffic signal also operates under split phasing (eastbound and westbound where one direction proceeds followed by the other with no overlap) because of the shallow angle.

2.1.10 Multimodal Considerations

Pedestrians

The study area is fully developed with land uses including residential, commercial, industrial, and public development. Local generators of pedestrian traffic along Mount Read Boulevard include schools and commercial development, however pedestrian facilities are limited. Sidewalks exist along Mount Read Boulevard (inner and outer drives) at the following locations:

West Side:

- NYS Route 33/Bufalo Road to Ferrano Street (along Mount Read Boulevard
- Ferrano Street to Emerson Street (along the Outer Drive)
- Emerson Street to Lexington Avenue (along Mount Read Boulevard and the Outer Drive)
- Lexington Avenue to NYS Route 104/West Ridge Road (along the Outer Drive)
- Medimount Drive to Stone Road (along Mount Read Boulevard)

East Side:

- NYS Route 33/Bufalo Road) to Bergen Street (along Mount Read Boulevard)
- Bergen Street to Emerson Street (along the Outer Drive)
- Emerson Street to Lexington Avenue (along the Inner Drives and Outer Drive)



- Driving Park Avenue to Ridgeway Avenue (along the Outer Drive)
- Truesdale Street to NYS Route 104 (along Mount Read Boulevard)

Sidewalks along the outer drive are interrupted at the Rochester and Southern Railroad crossing between Emerson Street and Lexington Avenue. Sidewalk conditions vary from poor to good, with the large majority in the fair to poor range. Pedestrian crossing locations at the signal controlled intersections along the corridor are inventoried below:

- NYS Route 33 (Buffalo Road) - No marked crosswalks, curb ramps, or push buttons / signals.
- Maple Street - Marked crosswalks for E-W (south) and N-S (east). Push buttons and hand/man signals E-W (south). Curb ramps, some ADA compliant.
- I-490 Westbound - Marked crosswalks, ADA compliant curb ramps, and push buttons with hand/man signals for E-W (south) and N-S (west and east).
- Jay Street - Marked crosswalks, curb ramps, and push buttons with hand/man signals for E-W and N-S.
- NYS Route 31 (Lyell Avenue) - Marked crosswalks, curb ramps, and push buttons with hand/man signals for E-W and N-S.
- Emerson Street - No marked crosswalks, curb ramps, or push buttons / signals.
- Lexington Avenue - No marked crosswalks or push buttons / signals. ADA compliant curb ramps exist only on the outer four (4) corners of intersection.
- Driving Park Avenue - No marked crosswalks, curb ramps, or push buttons / signals.
- Ridgeway Avenue - No marked crosswalks or push buttons / signals. Limited curb ramps.
- Stone Road - Marked crosswalks, ADA compliant curb ramps, and push buttons with hand/man signals for E-W and N-S.



Pedestrian and Bicyclist Activity at Lyell Avenue

The City of Rochester and Eastman Kodak jointly maintain a pedestrian bridge over Mount Read Boulevard between Ridgeway Avenue and NYS Route 104 (West Ridge Road). This bridge connects the Eastman Kodak complex on the east side of the road with an employee parking lot on the west side. Staircases are provided on both the west and east sides, connecting to the sidewalk system along Mount Read Boulevard.

Overall, Mount Read Boulevard acts as a physical barrier for pedestrians between NYS Route 31 (Lyell Avenue) and Stone Road. Available crossing locations are limited to major signalized intersections or overhead bridges given the existing roadway cross section. The intersections of Emerson Street, Lexington Avenue, and Driving Park Avenue lack basic pedestrian accommodations, refuge areas at the median, and signalization. The posted speed limit on Mount Read Boulevard, along with the lack of sufficient pedestrian connectivity, results in limited pedestrian use along the corridor.

Pedestrian volumes are limited along the corridor as observed during field investigations. Pedestrians crossing at uncontrolled locations typically yield to oncoming traffic. However, the lack of sufficient pedestrian accommodations increases the risk for a collision given the length of the crossings.

Bicyclists

There are no restrictions on bicycle travel along Mount Read Boulevard, however there are also no dedicated bicycle facilities along Mount Read Boulevard within the study limits. Bicycles are expected to share the travel lanes with motor vehicles given the narrow shoulder width from NYS Route 33 (Buffalo



Road) to NYS Route 31 (Lyell Avenue) and from Emerson Street to Lexington Avenue. For the rest of Mount Read Boulevard from Lyell Avenue to Stone Road, the wider shoulder provides better accommodation for bicyclists. There are bicycle lanes on Driving Park Avenue that terminate just east of the corridor. There are also bicycle lanes on NYS Route 33 (Buffalo Road) just west of the corridor.

According to the City’s *Rochester Bicycle Master Plan*, the bicycle level of service for the corridor varies from A to F. Mount Read Boulevard is scored at LOS E or F between NYS Route 33 (Buffalo Road) and Lexington Avenue. Mount Read Boulevard is scored at LOS A between Lexington Avenue and Driving Park Avenue. These scores are related to the existing roadway sections and shoulder conditions summarized above. Bicycle volume is limited along the corridor as observed during field investigations. Users were generally perceived to not be cycling enthusiasts, but rather destination bicyclists using the bicycle as their primary means of transportation.

Transit

The Rochester Genesee Transportation Authority (RGRTA) operates transit services within the study area. The RGRTA, which oversees public transportation in eight Western New York counties, operates six Regional Transit Service (RTS) bus routes within the corridor. Bus routes within the corridor, including bus stops along and adjacent to Mount Read Boulevard, are shown on Exhibit 2.1.10 in Appendix A.



Corridor Bus Shelter

As shown, only bus route #9 (Jay/Maple) has stops along Mount Read Boulevard. Stops are located between NYS Route 33 (Buffalo Road) and NYS Route 31 (Lyell Avenue). Several of the stops directly adjacent to Mount Read Boulevard experience moderate daily ridership. These include the 2 stops on Lyell Avenue at Mount Read Boulevard. Bus shelters exist at several of these stops.

Airports, Railroad Stations, and Ports

The Greater Rochester International Airport is located adjacent to I-390 southbound approximately 2 miles south of the I-390/I-490/NYS Route 390 interchange. No conflicts exist with the flight paths of aircraft using this airport. There are no railroad stations or port entrances within or in the vicinity of the study area.

Access to Recreation Areas

There are no entrances to parks, waterways, or state lands within the study corridor.

2.1.11 Lighting

There are several different types of roadway and intersection lighting spread throughout the corridor. The NYS Route 33 (Buffalo Road) traffic circle is lit by cobra head luminaires mounted on truss arms connected to individual poles. There are also cobra head fixtures mounted to single arms and connected to traffic signal poles.

Cobra head luminaires are suspended from lighting arms bracketed to wooden poles between NYS Route 33 (Buffalo Road) and the I-490 interchange. At the interchange, there are pedestrian scale ornamental lights as well as cobra head luminaires suspended from bracket arms on standalone light poles. The standalone light poles are powder coated black to match the ornamental lighting. From the I-490 interchange north to the NYS Route 31 (Lyell Avenue)



Ornamental Lighting at I-490 Underpass



intersection, Mount Read Boulevard is lit by cobra head luminaires suspended from bracket arms mounted to utility poles.



Typical Median Lighting

Lighting for the inner drives is provided by dual cobra head luminaires (one for each roadway) suspended from truss arms bracketed to individual poles running down the median from NYS Route 31 (Lyell Avenue) to Medimount Drive. The power feed for the existing lights runs overhead from pole to pole. This is both obsolete and visually unappealing. Anecdotal evidence suggests the power feed was run overhead to avoid time consuming and

costly excavation in a relatively high rock table below the road. Adjacent to Medimount Drive there are a series of cobra head luminaires suspended from bracket arms attached to separate light poles along the outside edges of the roadway. As noted in Section 2.1.2 the NYSDOT owns the poles, arms, foundations, pullboxes, and conduit. The MCDOT owns the fixtures and wiring. The MCDOT performs all maintenance.

The remainder of the corridor is lit by cobra head lights suspended from bracket arms mounted to utility poles along the west side of the road and separate wooden light poles to the east. Not all segments of the outer drives have lighting. Where lighting is provided, it generally consists of cobra head luminaires suspended from bracket arms connected to utility poles. The City of Rochester owns and maintains the lighting system on the Outer Drives. The Town of Greece owns and maintains lighting along Old Mount Read Boulevard.

2.1.12 Utilities

Utilities within the project study area include underground water, gas, sanitary sewer, storm sewer, electric, and other communication lines. Many of these are reflected on available record plans. There are also overhead electric, telephone, cable, and other communication lines suspended from wooden utility poles. These are visible in the field. The following is a list of significant utility owners within the project limits:

- Monroe County Department of Transportation – traffic signal conduit, lighting
- City of Rochester DES - lighting
- Town of Greece – lighting
- NYSDOT – traffic signal conduit and lighting (poles, arms, & foundations)
- City of Rochester Water Bureau - water distribution and transmission mains
- Monroe County Pure Water Agency – storm and sanitary sewer
- Monroe County Water Authority – water distribution and transmission mains
- Rochester Gas and Electric – gas transmission mains, gas distribution mains, and laterals
- Rochester Gas and Electric – aerial and underground electric lines and services
- Time Warner Cable – overhead and underground cable lines
- Frontier – overhead and underground telephone lines
- AT&T - none

The study team reached out to known utility owners within the corridor for general information regarding their existing facilities. A brief summary of the information provided by those that responded is summarized below.



Water

The Rochester Water Bureau owns and maintains transmission and distribution water mains along Mount Read Boulevard from NYS Route 33 (Buffalo Road) to NYS Route 104 (West Ridge Road). Distribution mains vary in size and location along the corridor, connecting all of the adjacent streets and feeding the numerous residential, commercial, and industrial uses along the corridor. The transmission main along the corridor consists of a 30 inch pipe, starting on the east leg of the Buffalo Road traffic circle and heads north under the pavement to NYS Route 31 (Lyll Avenue). At Lyell Avenue, it transitions to a 36 inch pipe and continues north to Driving Park Avenue. Through this stretch, the water main is located in the median area between Mount Read Boulevard southbound and the western outer drive, except at the CSX Railroad Bridge where it crosses under the tracks to the west of Mount Read Boulevard. From Driving Park Avenue, a 48 inch pipe continues north from the 36 inch mains of both Mount Read Boulevard and Driving Park Avenue and ties into the Monroe County Water Authority's 48 inch pipe and a 24 inch pipe that heads to the east just north of NYS Route 104 (West Ridge Road).

The Monroe County Water Authority also owns and maintains transmission and distribution water mains along Mount Read Boulevard from NYS Route 104 (West Ridge Road) to the north of Stone Road. Distribution mains vary in size and location along the corridor, connecting all of the adjacent streets and feeding the numerous residential, commercial, and industrial uses along the corridor. The Water Authority owns and maintains a large pump station just west of Mount Read Boulevard, directly across from Joanne Drive. This facility is a critical feed for both County and City water supply and has extensive underground infrastructure adjacent to its facility. The transmission main along the corridor begins at the Rochester Water Bureau's 48 inch main just north of NYS Route 104 (West Ridge Road), hooks into the feeds coming from the pump station, and continues under the road to the north, outside the study limits. Additionally, a 42 inch pipe crosses Mount Read Boulevard after coming out the pump station and heads east, just south of Joanne Drive.

Gas

Rochester Gas and Electric (RG&E) owns and maintains natural gas distribution mains within the project limits. RG&E plans to rehabilitate existing lines within the project limits in order to increase the operating pressure of several of these lines. This work includes the installation of a new distribution system north of Ridgeway Avenue. This improvement is necessary to handle significant growth and demand for natural gas throughout the surrounding area. High pressure mains within the corridor include a 20 inch main from NYS Route 33 (Buffalo Road) to Driving Park Avenue, a 16 inch main from Driving Park Avenue to Ridgeway Avenue, and a 12 inch main from Ridgeway Avenue to north of Stone Road. These mains are generally located within with pavement area of the outer drives. Distribution pressure mains vary in size and location along the corridor, connecting all of the adjacent streets and feeding the numerous residential, commercial, and industrial uses along the corridor.



2.1.13 Railroads

There are three railroad crossings of Mount Read Boulevard’s inner drives within the study limits. All three crossings are grade separated. The first railroad passes under Mount Read Boulevard approximately 800 feet north of NYS Route 31 (Lyell Avenue). The bridge accommodates a single track of the Falls Road Branch shortline. The line is owned and operated by CSX Transportation. This portion of the line is active and used to provide shipments to Klein Steel. The second crossing is approximately 870 feet north of Emerson Street where the Rochester and Southern Railroad passes over Mount Read Boulevard. The crossing accommodates a single, relatively low speed siding track. The third and final crossing is over the Eastman Business Park Railroad. Mount Read Boulevard passes over a single track approximately 1,525 feet north of Ridgeway Avenue.



Rochester & Southern Railroad over Mount Read Boulevard

There are no at-grade crossings within the study corridor. Mount Read Boulevard’s outer drives are severed at each of the railroad crossings with the exception of the Eastman Business Park Railroad. In that case, the outer drives are carried over the railroad on the same structure as the inner drives.

2.1.14 Geotechnical

No subsurface investigations were performed as part of this study, however a review of available record plans and anecdotal evidence suggest that the rock is relatively close to the surface along the study corridor. This is an important consideration for the planning and design of future projects that might involve deep excavations.

2.2 Traffic Volumes and Operations

The following sub-sections summarize the traffic analysis of existing (2013) and projected future no-build (2035) conditions for the Mount Read Boulevard Corridor from NYS Route 33 (Buffalo Road) in the City of Rochester to Stone Road in the Town of Greece. This portion of the study establishes a baseline to allow for the development and comparison of conceptual improvements. The information provided does not however, comprise a complete set of traffic data of the quality necessary for follow-on design activities. New data should be collected across the entire corridor as the first of many steps in a future design project or projects.

2.2.1 Traffic Volumes

Daily Traffic Volumes

Daily traffic data for Mount Read Boulevard’s inner drives were drawn from a number of sources. Historic average annual daily traffic volumes (AADT) were obtained from past NYSDOT [Traffic Volume Reports](#) and their online tool, the New York State Traffic Data Viewer. AADT is the two-way volume that utilizes a roadway under average conditions each day throughout the year. The NYSDOT [Local Traffic Volume Reports](#) and MCDOT [Traffic Count Summary](#) were also culled for pertinent data. The most recent available historic counts generally come from the years 2007 to 2010. Copies of these counts are available in Appendix B. No new 24-hour continuous traffic counts were taken as part of this study. In general, traffic



volumes along the corridor have showed little or no growth over the past 5 years. Trucks comprise anywhere from 3% to 10% of the daily volume depending on location. No daily traffic volumes are currently available for the outer drives.

To establish a study baseline, the AADT were extrapolated to the year 2013 using an average annual growth rate of 1.0%. The MCDOT established this value for the City of Rochester and Town of Greece, including the Mount Read Boulevard Corridor as described in a memorandum included in Appendix B. Use of a 1.0% per year growth rate is appropriate as a conservative approach when planning long-term investments.

For the purposes of this study, it is assumed that all construction along Mount Read Boulevard would be complete by the year 2035. This would be the estimated time of completion (ETC). Please refer to Section 5 of this report for additional discussion of the anticipated project schedule. Resultant traffic forecasts for the Mount Read Boulevard corridor under existing (2013) and future no-build (ETC, 2035) conditions are summarized in Exhibit 2.2.1(1). The no-build condition assumes only routine maintenance would be performed along the corridor in the absence of major rehabilitation, reconfiguration, or reconstruction.

Exhibit - 2.2.1(1)			
Existing and Future No Build Average Annual Daily Traffic Volumes			
(vehicles per day)			
From	To	Existing (2013)	Future No Build at ETC (2035)
NYS Route 33 (Buffalo Road)	I-490 Interchange	15,000	18,700
I-490 Interchange	NYS Route 31 (Lyell Avenue)	20,000	24,900
NYS Route 31 (Lyell Avenue)	Ridgeway Avenue	16,500	20,600
Ridgeway Avenue	NYS Route 104 (West Ridge Road)	16,000	20,000
NYS Route 104 (West Ridge Road)	Stone Road	15,500	19,300

As shown, the highest volumes are typically found between I-490 and NYS Route 31 (Lyell Avenue). The levels along the rest of the corridor are also fairly consistent. Using planning guidelines established by the NYSDOT, the existing and future volumes are of a level that can generally be supported by two travel lanes in each direction with additional turn lanes as needed at intersections.

Traffic for a major reconstruction project is typically estimated at both ETC and a point 20 years in the future (ETC+20), commonly known as the design year per the NYSDOT Project Development Manual. Assuming an ETC of 2035, the target design year for a reconstruction project along Mount Read Boulevard would then be 2055. Forecasting corridor traffic more than 40 years into the future generally requires a regional traffic simulation model of the type developed and maintained by the Genesee Transportation Council (GTC). Travel demand models use land use data, characteristics of residential development and employment, and information on committed transportation network improvements to estimate future traffic volumes. They also consider roadway attributes including speed, capacity, and number of lanes. Collaboration with the GTC to generate forecasts at that level of detail is beyond the scope of this study, therefore 2055 forecasts have not been developed. Travel demand modeling is likely to be needed during the next stage of project development. The overall construction of improvements along the corridor is likely to be broken into several phases. In that case, there may be multiple ETC and ETC+20 targets requiring analysis.



Intersection Turning Movement Volumes

Intersection turning movement counts were also gathered from a number of available sources. Historic data were provided by the NYSDOT and MCDOT at several intersections. Counts were also adapted from traffic studies for recent nearby developments provided by the City of Rochester. This information was supplemented with 4 new turning movement counts scoped as part of this study. New turning movement counts were taken where Mount Read Boulevard intersects the following roads and streets:

- NYS Route 33 (Buffalo Road)
- Emerson Street
- Driving Park Avenue
- Joanne Drive

New turning movement counts were spread out across the corridor to provide a representative sample, update important counts, and close some remaining gaps in the existing data. They were taken while school was in session and covered both the inner and outer drive intersections with Emerson Street and Driving Park Avenue. The counts were taken between the hours of 7:00 a.m. and 9:00 a.m. and 4:00 p.m. and 6:00 p.m. on an average weekday. Counts were collected in 15 minute increments allowing identification of both morning and evening peak hour periods. Weekday morning and evening peak hour volumes are important, as they allow for the analysis of traffic operations during what are typically the periods of highest daily traffic. Based on the results, the weekday morning peak hour generally begins at 7:15 a.m. while the evening peak begins at 4:15 or 4:30 p.m. depending on location. Copies of the turning movement count data are contained in Appendix B.

Older count data were brought forward to the year 2013 using the established 1% per year growth rate. They were then balanced, as appropriate, against the new turning movement counts to develop a baseline turning movement diagram for the entire study corridor. Note that there are still several locations where turning movement count data remains missing, including the I-490 eastbound ramps, Ferrano Street, Ridgeway Avenue ramp connections, and NYS Route 104 ramp connections. Though it was not possible to generate complete coverage of the Mount Read Boulevard corridor under this study, volumes were established for key intersections including NYS Route 33 (Buffalo Road), NYS Route 31 (Lyell Avenue), Emerson Street, Lexington Avenue, Driving Park Avenue, and Stone Road.

The resultant existing weekday morning and evening turning movement volumes for the corridor are presented in Exhibit 2.2.1(2). Turning movement volumes at ETC (2035) under no-build conditions were also estimated using the 1% per year annual growth rate and are presented in Exhibit 2.2.1(3). Both exhibits are available in Appendix B.

2.2.2 Traffic Operations

Existing and future no-build traffic operations were evaluated to establish a baseline for comparison during the development of conceptual improvements. Level of Service (LOS) is a qualitative measure describing motorist satisfaction with various factors influencing traffic congestion including travel time, speed maneuverability, and delay on an average day. The methodology for performing capacity analyses and determining level of service is documented in the Highway Capacity Manual (HCM). LOS ranges from A to F. LOS A describes conditions with free-flow operations at desirable travel speeds and little or no delay. LOS F denotes highly congested conditions with stop and go traffic, low speeds, significant congestion, and substantial delays. An explanation of how delay relates to level of service for both signalized and unsignalized intersections is provided in Appendix B.



LOS for signalized and unsignalized intersections is determined from the average seconds of delay per vehicle (sec/veh). Signalized intersection analyses yield LOS for groups of lanes (those lanes shared by similar movements) on each approach and the intersection as a whole. Unsignalized intersection analyses result in LOS values for critical movements only. Critical movements are those that must yield or stop and give the right-of-way to other approaching vehicles. LOS D or better is generally considered desirable during peak commuter periods in urban areas such as the City of Rochester. LOS E (and even LOS F) may be deemed acceptable in certain situations.

To assess existing and future no-build conditions along the corridor, an analysis of the traffic control elements and their effect on overall traffic flow was performed. Synchro, Version 7.0, by Trafficware, was chosen to accomplish that task. Synchro implements the methods of the HCM for signalized and unsignalized intersection analyses. The intersections studied include those with volumes in Exhibits 2.2.1(2) and 2.2.1(3). Existing signal timing and phasing were obtained from the NYSDOT, MCDOT, and spot verified in the field. Detailed Synchro output is part of the project record and can be made available by the City of Rochester upon request. The results of the analyses for existing (2013) and no-build conditions (2035) are summarized in Exhibit 2.2.2.

Most intersections are currently operating at LOS D or better overall and would continue to do so in 2035 under no-build conditions. There are however, some specific lane groups and movements with capacity concerns worth noting as described below. At intersections involving both inner and outer drives, the issues documented involve the inner drives. Where data are available for the outer drives, the stop controlled approaches to each intersection operate with an acceptable level of service.

The westbound left turn from the I-490 westbound off ramp to Mount Read Boulevard southbound is currently operating at LOS E during the evening peak hour. This is anticipated to continue in 2035. The northbound left turn lane from Mount Read Boulevard to the I-490 westbound on-ramp is currently operating at LOS E during the evening peak hour. In 2035, it is projected that delays will increase and the quality of operation will degrade to LOS F. The same movement is projected to operate at LOS F during the morning peak hour in 2035. Despite these poor movements, the intersection does and would continue to operate with an acceptable level of service overall.

Exhibit - 2.2.2				
Overall Intersection Level of Service Summary				
Existing (2013) and Future No-Build (2035) Conditions				
Intersecting Street or Roadway	Existing (2013) (LOS/Delay)		No-Build (2035) (LOS/Delay)	
	AM	PM	AM	PM
NYS Route 33 (Buffalo Road)	B/16	C/25	B/18	C/27
Maple Street	A/3	A/9	A/4	B/12
I-490 Westbound Ramps	B/17	C/25	C/29	D/40
Jay Street	A/7	B/20	B/11	E/68
NYS Route 31 (Lyell Avenue)	C/34	D/45	D/43	E/80
Emerson Street	B/18	C/21	C/21	C/23
Lexington Avenue	C/32	C/28	E/77	D/43
Driving Park Avenue	B/16	B/14	C/20	B/17
Ridgeway Avenue at West Outer Drive	B/17	B/13	C/22	B/16
Ridgeway Avenue at East Outer Drive	B/14	B/11	B/17	B/13
West Outer Drive Access to West Inner Drive Near MCWA Facility ¹	E/35	D/26	F/63	E/47
Joanne Drive ¹	E/48	F/190	F/229	F>300
Stone Road	D/38	C/29	E/65	D/39

Notes: 1. Unsignalized intersection. Results shown are for the stop controlled approach.



As shown, the intersection of Mount Read Boulevard and Jay Street would operate at LOS E overall during the evening peak hour in 2035. This would result from LOS F operations in the northbound lanes shared by through and right turn movements and the whole westbound approach.

All left turn lanes at the intersection of Mount Read Boulevard and NYS Route 31 (Lyell Avenue) currently operate at LOS E and F in the morning and evening peak periods, respectively. Field observations suggest that while the movements are congested, this does not typically lead to the full breakdown of traffic flow at the intersection. This trend is expected to continue in 2035 with no action taken. As previously noted, all four left turns move only on a green arrow (protected only operation). The westbound approach currently operates at LOS E during the evening peak hour and is expected to continue to do so in 2035. The northbound lanes shared by through and right turn movements are also projected to reach LOS F by 2035 in the evening peak hour.

The eastbound left turn from Emerson Street to Mount Read Boulevard northbound is currently operating at LOS E during the evening peak hour. This condition is projected to continue in 2035.



Morning Peak Traffic at Lexington Avenue

LOS F operation in the southbound lanes shared by through movements and right turns is projected to cause the overall LOS E at the Lexington Avenue intersection during the morning peak hour in 2035. In addition, the northbound left turn from Mount Read Boulevard to Emerson Street currently operates at LOS E. This is projected to continue in 2035. The northbound lanes shared by through movements and right turns are also projected to operate at LOS E in that timeframe.

The westbound left turn from Driving Park Avenue to Mount Read Boulevard southbound is currently operating at LOS E during the morning and evening peak periods. This condition is projected to continue throughout 2035 under no-build conditions. The northbound and southbound left turn lanes are also currently operating at LOS E during the evening peak hour. This condition is projected to continue in 2035 under no-build conditions.

The southbound lane shared by through movements and left turns at the intersection of Mount Read Boulevard's western outer drive with Ridgeway Avenue is currently operating at LOS E during the morning peak period. This condition is anticipated to continue in 2035 under no-build conditions. The same movement is projected to operate at LOS E during the evening peak in 2035.

The northbound lane shared by left turns and through movements at the intersection of Mount Read Boulevard's eastern outer drive with Ridgeway Avenue is currently operating at LOS E during the morning and evening peak periods. This condition is projected to continue in 2035 under no-build conditions.

The unsignalized approaches to Mount Read Boulevard at both the access near the Monroe County Water Authority (MCWA) facility and Joanne Drive currently experience LOS E and F conditions during peak periods. In the case of Joanne Drive, delays are more pronounced during the evening peak period. Delays are projected to increase during both peaks in 2035 under no-build conditions.



In 2013, only the westbound left turn from Stone Road to Mount Read Boulevard southbound is functioning poorly (LOS F) during the morning peak. In 2035, the westbound through lane is also projected to operate at LOS F. Those values are the primary contributing factors to the overall LOS E projected in 2035. Also in 2035, during the evening peak, the eastbound through, westbound through, and southbound left turn would operate at LOS E or F.

2.3 Safety Considerations, Accident History, and Analysis

As part of this study, accident records for a three year period from May 2009 to April 2012 were examined for the Mount Read Boulevard Corridor. Accident reports (MV-104 forms) were provided by the NYSDOT. A geographic information systems (GIS) database with information drawn from the Accident Location Information System (ALIS) was provided by the GTC. The two sources were indexed and compared to generate the data set for this study.

A total of 375 accidents were identified over the three year period. Of these, 225 (60%) occurred at intersections and the remaining 150 (40%) occurred at midblock locations. There were no accidents involving a fatality, however nearly 130 accidents (34%) resulted in an injury to at least one person. The majority (67%) of accidents occurred under dry conditions with 27% taking place under wet or snowy pavement conditions. The predominant collision types are noted below. A rear-end and right angle accident pattern is typical of an urban arterial with signalized intersections.

- Rear End - 33%
- Right Angle – 15%
- Overtaking – 14%

Available accident location information was incomplete, therefore a full collision diagram showing accident locations and patterns could not be developed. However, the data were used to generate an accident “hot spot” diagram included as Exhibit 2.3 in Appendix B. This diagram identifies locations along the Mount Read Boulevard corridor where most of the accidents are taking place. This information helps identify where targeted safety improvements would yield the greatest return on investment.

As shown, the largest cluster of accidents occurred at the NYS Route 31 (Lyell Avenue) and Lexington Avenue intersections representing 50-60 accidents from the database each. These were followed by the NYS Route 33 (Buffalo Road), Jay Street, Emerson Street, and Stone Road intersections with 20 to 40 accidents each. The Driving Park Avenue intersection followed with 10 to 20 accidents. There was one segment of Mount Read Boulevard, between Jay Street and NYS Route 31 (Lyell Avenue) with a number of accidents significant enough to separate it from the others. This segment has three lanes in each direction, some parking in the curb lanes, and numerous driveways. Accident “hot spots” were absent between Driving Park Avenue and Stone Road.

In addition to the accident study, field observations were made to identify locations and conditions along the corridor that could have a potentially negative effect on overall safety. They include:



- Poor quality of signing and marking at the NYS Route 33 (Buffalo Road) traffic circle, potentially leading to driver confusion, rear end, and sideswipe accidents.
- Close proximity of the western outer drive intersection with NYS Route 31 (Lyell Avenue), now functioning as a driveway to the ABC Supply Company and the Lyell-Mount Read Shopping Center, to the signalized intersection of Mount Read Boulevard and Lyell Avenue.



Existing Signs at Traffic Circle

- Close proximity of the inner drive and outer drive intersections at Emerson Street, Lexington Avenue, and Driving Park Avenue. The inner drive and side street approaches are signal controlled while the outer drive approaches are stop controlled. There are numerous signs and markings at each location providing various messages to the driver. The combination of complex geometry, numerous signs, and traffic signals places a high demand on driver attention. These conditions elevate the potential for rear end and right angle accidents.
- Turned down guiderail and median barrier end sections that could potentially vault an errant vehicle.
- Driver confusion related to connectivity of the outer drives. Some segments are continuous while others have no outlet. Some segments carry two-way traffic while others are one-way.
- Short median openings between the outer drives and inner drives with limited storage space. The method of traffic control also varies from one location to another with some under yield control and others having free flow acceleration lanes.
- Sharp skew angles between ramps to and from the inner drives to the outer drives in the vicinity of Ridgeway Avenue and the Eastman Business Park. The sharp angles make it difficult, especially for elderly drivers, to turn their heads to see oncoming traffic. They also elevate the possibility of wrong-way entry.

Traffic control also varies from location to location where ramps connect the inner and outer drives. Some connections require a stop on the outer drives while others requiring the ramps to yield.



Stop Control on Outer Drive near Kodak

- The northern terminus of the western outer drive, adjacent to Medimount Drive, allows for multiple points of potential vehicular conflict and locations for possible wrong-way entry.

2.4 Police, Fire, and Ambulance Access

The Mount Read Boulevard corridor is jointly patrolled by Rochester Police Department (RPD) and Town of Greece Police Department. This roadway is also used by fire protection and ambulance response vehicles for various incidents. There is an active fire station in the southeast corner of the Mount Read Boulevard and Emerson Street intersection. Mount Read Boulevard is also used by the NYSDOT as a



designated alternative route to accommodate traffic during significant incidents (and construction) on NYS Route 390.

2.5 Land Use and Development

Land use within the study area was analyzed at two scales; within ½ mile of the corridor and directly along the corridor. The following text summarizes the land use analysis and presents key findings likely to impact future land use and transportation decision-making along Mount Read Boulevard. Land uses within the study corridor are illustrated on Exhibit 2.5 in Appendix A.

2.5.1 General Land Use

Land use and development character within ½ mile of the Mount Read Boulevard corridor varies significantly including pockets of well-defined residential neighborhoods and intensely developed industrial areas. Residential uses are the most prominent on a per-parcel basis, accounting for 8 in 10 lots within the study area over nearly 900 acres. Dense residential neighborhoods are located at the northern and southern ends of the corridor and dominate the corridor between I-490 and NYS Route 31 (Lyll Avenue). This segment also contains the highest population density along Mount Read Boulevard within the study area, as well as the highest driveway density along the corridor.



*Mount Read Boulevard:
Home to Industries*

However, industrial uses account for the greatest acreage within the study area and visually dominate the corridor between Lexington Avenue and NYS Route 104 (West Ridge Road). This segment includes the General Motors Components Holdings, LLC facility and significant portions of the former Kodak Park, now the Eastman Business Park campus, which straddles the corridor. The Simcona Industrial Park and the Canalside Business Center are large industrial properties located between NYS Route 33 (Buffalo Road) and NYS Route 31 (Lyll Avenue) on the west side of the corridor. These large industrial complexes, along with numerous smaller facilities, provide a significant number of jobs within the City of Rochester, making the Mount Read Boulevard corridor a major employment hub.

In addition to over 1,200 acres of industrial land uses, the study area also contains over 550 acres of commercial property, the majority of which is located between NYS Route 31 (Lyll Avenue) and NYS Route 104 (West Ridge Road). Approximately 21% of commercial properties are parking lots and an additional 12% are categorized as apartments per the New York State real property classification system.

Exhibit - 2.5.1					
Parcels within ½ Mile of the Mount Read Boulevard Corridor					
Land Use Classification	Parcels		Acres		Assessed Value/Acre
Residential	3,474	82%	877	28%	\$286,900
Commercial	367	9%	559	18%	\$313,900
Vacant	220	5%	258	8%	\$21,200
Industrial	97	2%	1,223	39%	\$117,700
Other	60	1%	235	7%	\$239,600
Corridor Area Totals	4,218		3,152		\$200,800



2.5.2 Frontage Land Use

The Mount Read Boulevard Study corridor can be broken into several individual segments, each largely dominated by a singular land use type. Approximately 51% of all parcels with direct or near-direct frontage on the corridor are classified as residential uses, which occupy 32% of overall corridor frontage length as shown in Exhibit 2.5. While residential uses are the most prevalent in terms of the number, commercial uses occupy the largest aggregate portion of mainline frontage (39%) while accounting for 32% of frontage parcels. Industrial uses account for only 10% of frontage parcels, yet consume 23% of the corridor length and nearly 3/4 of the acreage for parcels with direct frontage. Remaining land uses with direct or near-direct frontage on the corridor mainline include vacant, commercial services, and public services.

Exhibit - 2.5.2 Parcels with Direct or Near-Direct Frontage					
Land Use Classification	Parcels		Acres		Frontage
Residential	136	51%	30	4%	32%
Commercial	85	32%	135	17%	39%
Industrial	26	10%	592	73%	23%
Vacant	17	6%	18	2%	6%
Other	5	2%	37	5%	0%
Corridor Area Totals	269		811		

2.5.3 Land Use and Development Key Findings

Although a significant number of residential uses are located within the study area, the majority of these properties do not experience direct adverse impacts associated with traffic. The exceptions are residential properties with mainline frontage between NYS Route 33 (Buffalo Road) and NYS Route 31 (Lyell Avenue) and small pockets of homes that front on an outer drive or have direct rear frontage on the corridor. Residential frontage properties between Buffalo Road and Lyell Avenue will continue to experience adverse impacts associated with their location due to the relatively high traffic volumes, including a large percentage of trucks if changes are not made to increase the buffer between building faces and the roadway.

The corridor also contains a noteworthy amount of underutilized property, which includes vacant land, parking lots, and underdeveloped land. Approximately 40% of frontage uses within the segment between Lexington Avenue and Ridgway Avenue are underutilized, offering a key opportunity for future, high-visibility redevelopment including commercial or industrial uses. Change is ongoing. For example, the City has committed to the redevelopment of sites including the former Photec property. Redevelopment of underutilized property along the corridor mainline would provide significant visual benefits, improve its appearance, and enhance the experience of corridor users.

2.6 Environmental Considerations

2.6.1 Aquatic Resources

A preliminary screening of environmental considerations was completed as part of the Mount Read Boulevard Corridor Study. Nearby streams are classified as Class C according to the New York State Department of Environmental Conservation (NYSDEC). Class C streams have waters that are suitable for fisheries and non-contact activities (e.g. swimming). The study area includes a checkzone for NYSDEC



designated wetlands south of Emerson Street along the west side of the corridor. There are two wetlands recognized by the National Wetlands Inventory (NWI). One includes the pond on the west side of the corridor between NYS Route 104 (West Ridge Road) and Stone Road while the other is a freshwater forested/shrub area located west of the MCWA facility. The study area is neither over an EPA sole source aquifer nor a NYSDEC primary aquifer. It is not located in a flood plain. The study area is in a New York State Department of State (NYS DOS) Local Waterfront Revitalization Plan Community but not in a coastal zone.

2.6.2 Historic Resources

A review of the State Historic Preservation Office (SHPO) files revealed no properties listed on the New York State or National Register of Historic Properties. The area is known to be archaeologically sensitive from approximately Driving Park Avenue to Rosecroft Drive, however the majority of the land adjacent to the corridor has been previously disturbed. There are no agricultural districts or park and recreation facilities with direct access to Mount Read Boulevard. There are no agency designated critical environmental areas immediately adjacent to the corridor. These are areas with exceptional or unique environmental character. Given the level of industrial activity along the corridor, hazardous waste and contaminated materials could be a concern in locations slated for significant excavation.

2.6.3 Visual Resources

This section focuses on the visual landscape character of the 4 mile long Mount Read Boulevard corridor. A site investigation was performed to assess the visual character and value of the existing roadside environment. Three landscape districts with distinct visual characteristics were identified within the study area. The visual character within each of these districts was noted.

The identification of landscape districts provides a framework for a visual assessment and the comparison of eventual concepts in context with the existing environment. It also provides a basis for identification of potential improvements to correct existing deficiencies or to mitigate proposed actions. The 3 identified landscape districts are as follows:

Landscape District A – NYS Route 33 (Buffalo Road) to Lyell Avenue (NYS Route 31)

Landscape District A includes the NYS Route 33 (Buffalo Road) traffic circle at the southern end of the study area and extends north to NYS Route 31 (Lyell Avenue). The general character and feel of this segment of the study corridor is that of a well-worn, populated urban arterial. I-490 bisects the corridor with a newly upgraded overpass approximately midway between these two points. Although the underpass has been widened to increase visibility and pedestrian scale light poles have been added adjacent to the sidewalk to improve visual character and minimize the presence of the overpass, it still functions as a divider for this segment. Therefore, this district is best described in two halves.

South of the I-490 overpass visual character is marked by the presence of industrial properties on the west side of the corridor. Although not residential in use, the industrial buildings have a similar setback and height as the residential structures along the east side. The roadway section is wide (6 travel lanes) with a narrow, almost-flush median in places, narrow tree lawns, and sidewalks. Few trees exist within the corridor so that the structures themselves are the dominant visual feature of the corridor, second only to the expansive pavement. At Buffalo Road a vast, seemingly inaccessible industrial area extends to the east, south, and west. This end of the corridor is distinguished by its (old-fashioned) traffic circle at NYS Route 33 (Buffalo Road) which acts as a gateway having significant green space and large, mature trees.



North of I-490, this landscape district is flat and lined primarily with regularly spaced, 2-story early to mid-century single family residences in average condition set close to the road with frequent driveway curb cuts, creating a well-defined edge and rhythm to the corridor that confines its views. At the northern end, School No. 43 is a major visual feature of the intersection with NYS Route 31 (Lyell Avenue). Its close proximity to the roadway and dark color makes the 3-story structure appear even larger. The Lyell-Mount Read Shopping Center is another prominent visual feature at this location.



School No. 43

Landscape District B – NYS Route 31(Lyell Avenue) to West Ridge Road (NYS Route 104)

Landscape District B is a long stretch of corridor with a relatively similar landscape and visual environment extending from NYS Route 31 (Lyell Avenue) north to NYS Route 104 (West Ridge Road). Visual elements that define this section of the corridor include predominantly industrial buildings of various sizes, heights, materials, and setbacks, some positioned close to the road, others set far back with large parking lots, lawns, or a mix of both between the buildings and roadway. Other significant features include:

- Periodic underpasses and overpasses conveying roads and railroad;
- Moderately undulating topography consistent with the under and overpasses;
- An unpaved center median with drainage swales and light poles; and
- The western and eastern outer drives that run parallel to but are separate from the inner drives.



Large Building Setbacks

Due to the adjacent outer drives and deep setbacks to industrial or commercial buildings, this segment of the corridor has a wide open feel with expansive views to the east and west as well as to the north and south from the within the corridor itself. Landforms are the defining dominant character of this landscape district. They are present in the rolling profile of the mainline as it ascends over the CSX Railroad just north of NYS Route 31 (Lyell Avenue) and as it passes beneath Ridgeway Avenue and NYS Route 104 (West Ridge Road). North of Driving Park Avenue, the gentle vegetated side

slopes of the inner drives also define the landscape and help balance the dominance of the roadway and heavy industrial land uses. Major vegetation in the form of street trees or trees that create edges or define space are lacking within this district. The green space present in the corridor is vegetated with ground cover (lawn) or small naturalized shrubs. No formal plantings occur within this landscape district. This segment of Mount Read Boulevard also has entrance and exit ramps north of Driving Park Avenue instead of signalized, at-grade intersections. It lacks sidewalks, contributing to the visual character of an automobile-centric, high-speed expressway.

Landscape District C – NYS Route 104 (West Ridge Road) to Stone Road

Landscape District C covers an area from the NYS Route 104 (West Ridge Road) overpass north to Stone Road in the Town of Greece. The West Ridge Road overpass is a distinct marker between the two different landscape districts north and south of it. This landscape district is typified by its parkway-like character. The clover leaf entry and exit ramps at West Ridge Road are vegetated, as is the center median that extends the entire length, broken only for access to the western outer drive and occasional side street. The level, median-divided highway is bounded primarily by mid-century, two-story single family residential homes fronting the western outer drive, and undeveloped vegetated





open space parcels interspersed with multi-family structures to the east. The clover leaf, center median, and undeveloped parcels render this the most green and vegetated segment of the corridor. The center median in the Town of Greece has no swale and is curbed and landscaped, giving it a much cleaner and neater appearance as compared to its counterpart to the south.



Section 3: Stakeholder and Community Participation

The City of Rochester administered this study of the Mount Read Boulevard corridor in conjunction with its project partners, local business leaders, neighborhood groups, residents, and the public. Public outreach and community participation were important components of the process. Stakeholders and the public were provided with several opportunities to offer input and ideas. The public outreach program personally engaged business and property owners along the corridor to solicit thoughts on how to improve Mount Read Boulevard, including its inner and outer drives, to best meet identified needs.

The information gathered as part of this study will inform future scoping and design activities. Outreach activities included collaboration with a Project Advisory Committee (PAC), stakeholder interviews, focus group meetings, and public meetings. These activities were designed to ensure both resident and business representation. Products included a stakeholder database and summaries of stakeholder input. In addition, the document itself served to ensure that the planning process was transparent to all stakeholders and other interested parties. Simply put, the objective of the outreach process was to establish and define a consistent understanding of the study's purpose, to gather input from the community on corridor needs, and to ensure that the public's concerns were heard and taken into account during the visioning process.

3.1 Stakeholder and Community Participation Plan

The study team developed a Stakeholder Participation Plan in February 2013. A copy of that plan is provided in Appendix D. The City of Rochester's objectives in gathering stakeholder input were:

1. To seek information and input from business owners in the Mount Read Boulevard corridor, which is one of the main distribution hubs in the region;



*Exchanges of Information
and Ideas*



2. To solicit ideas on how to improve the Mount Read Boulevard corridor, including its intersection with NYS Route 31 (Lyell Avenue); and
3. To solicit input and feedback on specific corridor improvement concepts that will be developed as the study moves along.

The plan was officially put in motion with the first PAC meeting in March 2013. Next, stakeholder interviews were conducted involving business leaders from along the project corridor. The first of 2 public meetings was held in May 2013 to exchange information with the community at large. It was intentionally held early in the process to share background information on the study and seek public input pertinent to concept development. Focus group meetings were held with interested stakeholders in June 2013 to discuss three different sections of the corridor. The second public meeting, held in March 2014, presented conceptual improvements and gave the public an opportunity to provide additional input before finalizing those concepts. Subsequent to the public meeting, several key stakeholders, including General Motors (GM) Components Holdings, LLC and Gallina Development Corporation, met with representatives of the study team to discuss specific concerns regarding the proposed vision plan. Those comments were also addressed as part of the outreach process.

3.2 Project Partners

The City of Rochester had several study partners. Each partner had a different role and responsibility, depending on a variety of factors, such as the agency or constituency they represent or their role as a resident or business owner. Throughout the project, the study team worked to identify interested parties and engage numerous groups, including those that have not traditionally been involved in municipal projects. Project partners included the following:

- The **City of Rochester** was the study administrator and secured federal funding for the work through the local Metropolitan Planning Organization’s Unified Public Work Program (UPWP). City staff members were continually involved in each step of study development. The Department of Environmental Services (DES), Department of Planning and Zoning, and Department of Neighborhood and Business Development (NBD) were each represented on the PAC and remained active throughout the study. The City developed and hosted a study specific website. Public meetings were advertised on that site. The final study report will be posted on that site once formally adopted.
- The **Mount Read Boulevard Project Advisory Committee** was charged with directing the overall vision of the plan and its recommendations. During its meetings, the committee reviewed and provided feedback on draft products and provided guidance to the study team regarding upcoming tasks. PAC members included the:
 - **City of Rochester Department of Environmental Services (DES)**
 - **City of Rochester Department of Neighborhood and Business Development (NBD)**
 - **New York State Department of Transportation (NYSDOT Region 4)**
 - **Monroe County Department of Transportation (MCDOT)**
 - **Town of Greece**
 - **Genesee Transportation Council (GTC)**



Participation by the NYSDOT and MCDOT was critically important to the success of this study as each owns and maintains a portion of Mount Read Boulevard. The concepts developed under this study ultimately had to meet with approval from these agencies if they were to have any chance of being carried forward as a future project.

The Town of Greece had an important stake in the project as well. Mount Read Boulevard is used by many Greece residents on a daily basis to travel to and from the City of Rochester. The Town also owns and maintains Old Mount Read Boulevard, the outer drive along the west side of Mount Read Boulevard north of NYS Route 104. In addition, a portion of the study corridor in the vicinity of Joanne Drive is considered by many as a gateway to their community.

The GTC, in its role as local Metropolitan Planning Organization (MPO), supports the economic vitality of the Greater Rochester metropolitan area and works to improve safety of the regional transportation system for motorized and non-motorized users. Additionally, it seeks to increase the accessibility and mobility options available to people and freight, promotes efficient system management and operations, and facilitates the planning and financing of transportation initiatives. Having that organization in on the “ground floor” of this study was strategically important to the prospect of future improvements. The GTC provided the federal planning funds used for this study.

- **Mount Read Boulevard business owners** were considered important partners in the development of the study. These individuals received special invitations to public meetings and many were directly invited to participate in one-on-one interviews and focus group meetings.
- The **public, including adjacent residents**, was given several opportunities to provide input via the public meetings and focus groups.

3.3 Outreach Summaries

3.3.1 PAC Meetings

The first PAC meeting was held on March 7, 2013. The purpose of this meeting was to introduce the members of the PAC to each other, discuss study plans and goals, and to solicit information from each of the PAC members that would prove useful for the study. The PAC and the study team also discussed the public outreach strategy for the project.

The focus of the second PAC meeting, held on September 12, 2013, was to review key findings from the study of existing conditions and the initial stages of the public outreach program. The group also offered comments on the initial draft sections of the project report and the earliest of concepts that would eventually evolve into the framework for the corridor vision plan.

A third PAC meeting was held on December 11, 2013 to perform an in-depth review of the corridor vision plan. The group also reviewed the concept level purpose, need, and objectives. Each segment of the corridor was reviewed in detail as the group reached consensus on what would ultimately be presented to the public.

Minutes from the each PAC meeting are published in Appendix D.



3.3.2 Stakeholder Interviews

In April 2013, the study team conducted 4 stakeholder interviews with project partners, including businesses and resident leaders from adjacent neighborhoods. The list of interviewees was developed in concert with the City of Rochester to include the business community, residents, and other stakeholders. Major findings from the stakeholder interviews include:

- There is a perception that Mount Read Boulevard functions well today.
- Some of the traffic lights appear to change too quickly.
- The NYS Route 33 (Buffalo Road) traffic circle is confusing.
- The outer drives are well utilized, but intersections that involve both the inner and outer drives are confusing and perceived as dangerous.
- The infrastructure is in a general state of disrepair. Improvements should not require a significant amount of maintenance, but should present a positive image for the corridor as a center of business and commerce.
- Traffic management strategies along the outer drives need improvement.
- Mount Read Boulevard is a barrier to pedestrians. A larger number of crossing opportunities and enhanced accommodations are needed.
- Additional green space is desirable if it will be maintained.

Additional information from the Stakeholder interviews is available in Appendix D.

3.3.3 Public Meeting Number 1

The purpose of the first public meeting, held on May 20, 2013, was to introduce the community to the study, provide data regarding existing conditions, and discuss the project schedule. The first meeting was intended to start a dialogue between the City, business community, and city residents. The format of the meeting included a brief presentation followed by breakout group discussions that aimed to determine (1) what issues need to be addressed currently and (2) what the community would envision if they were the project designers. Major comments received during the public meeting were:



A productive brainstorming session

- The NYS Route 31 (Lyell Avenue) intersection is difficult to maneuver for trucks and pedestrians.
- Mount Read Boulevard handles and should continue to handle a large volume of traffic.
- School No. 43 needs an alternate plan for pick-up and drop-offs that does not involve Mount Read Boulevard.
- A right turn lane may be desirable on Mount Read Boulevard southbound at the entrance to I-490 westbound.
- The community is open to roundabouts at appropriate locations, including as a replacement for the NYS Route 33 (Buffalo Road) traffic circle.
- If bicycle facilities are included in the future design, they should be separated from vehicular traffic, especially given the high volume of truck traffic on Mount Read Boulevard.

Formal minutes from Public Meeting #1 are available in Appendix D.



3.3.4 Focus Group Meetings

The study team planned and facilitated a series of 3 focus group meetings in late June 2013. Local stakeholders were invited to participate in one of the 3 focus groups depending on their area of interest related to the study process. The meetings covered three segments of the corridor including NYS Route 33 (Buffalo Road) to NYS Route 31 (Lyell Avenue), Lyell Avenue to Ridgeway Avenue, and Ridgeway Avenue to Stone Road. Formal minutes from each of the three focus groups are included in Appendix D. A summary of comments is included below:



One on One Interaction

- The outer drives serve a good purpose, but intersections where both the inner and outer drives are involved are confusing and difficult for trucks to navigate.
- The number of lanes should not be reduced to less than 2 in each direction.
- The NYS Route 33 (Buffalo Road) intersection should become a roundabout or signalized T-intersection.
- The goal of the project should be to improve safety and efficiency of the roadway, especially at major intersections, but not to slow traffic.
- The NYS Route 31 (Lyell Avenue) and Lexington Avenue intersections are perceived as the 2 most in need of immediate improvement.
- Any aesthetic improvements developed as part of the project should be “low maintenance.”
- Bicyclists and pedestrians need more and improved east-west connections.
- The western outer drive between Lexington Avenue and Ridgeway Avenue has several confusing areas that should be addressed through signage and/or improved design.
- Any gateway treatment at the Town of Greece line should use geometry to slow speeds and indicate to the driver that Mount Read Boulevard will be transitioning to a local road.
- Lighting is old and should be replaced. Lights provide a low maintenance opportunity to unify and improve the aesthetics along the corridor.

3.3.5 Public Meeting Number 2



Taking time to listen

The second public meeting was held on March 20, 2014. The event took the form of an open house. All participants were provided a project information sheet and a comment card. Representatives from the City, consultant team, and the PAC were present to discuss graphics illustrating the vision plan, answer questions, and listen to comments and concerns.

Conversion of the Buffalo Road traffic circle to a roundabout was generally well received, as well as proposed improvements to the short on and off ramps, pavement rehabilitation, and the potential addition of a signal to the Joanne Drive intersection. Some concerns were raised over the elimination of the Outer Drive, the addition of bicycle lanes, and potential conflicts between bicyclists and large trucks. Meeting participants asked for improved signage, low maintenance surface treatments, consideration of a third lane where an Outer Drive might be eliminated, and keeping the roadway “driving friendly.” The



public did not establish a clear consensus as to what part of the project they might like to see implemented first. Formal minutes from Public Meeting 2 are available in Appendix D.

3.3.6 Meeting with General Motors (GM) Components Holdings, LLC

Subsequent to the public meeting, representatives of GM Components Holdings, LLC requested a meeting with the City of Rochester and study team. Members of the consultant team and the NYSDOT attended this meeting along with the City. GM representatives provided an overview of the plant's operations and described future uses being considered for property that could potentially be impacted by the vision plan improvements as shown at the public open house. Of particular concern was a proposed jug handle that would impact the land currently used by Bob Johnson Chevrolet for the storage of vehicles and might be used in the near future for the installation of a solar power array. Information was also provided suggesting that construction in this area may have the potential to unearth contaminated material or groundwater.

After the meeting, the study team reviewed the conceptual improvements at the Driving Park Avenue intersection and developed an alternative that would minimize impacts to GM's property. Those revisions were reviewed with GM and ultimately incorporated into the base concept for the corridor vision plan. Minutes from this meeting are available in Appendix D.

3.3.7 Meeting with Gallina Development Corporation

The Gallina Development Corporation also requested a meeting with the City of Rochester and study team. An on-site meeting was attended by representatives from the City, NYSDOT, and consultant team. Chief among the corporation's concerns was a proposal in the original vision plan that would dead end the West Outer Drive adjacent to their property at 1425 Mount Read Boulevard. It was believed that this feature would encourage cut through traffic of the adjacent business park's parking lot.

In response to these concerns, the study team developed an alternative arrangement that would allow southbound traffic to continue to Lexington Avenue and then turn right. The right turn would need to be separated from the traffic signal at Mount Read Boulevard. Left turns and through movements would be restricted. A portion of the adjacent property would need to be acquired in order to construct this feature. If the West Outer Drive were eliminated in its entirety between Lexington Avenue and Driving Park Avenue in conjunction with development or other changes, all properties in this segment could potentially be reconnected to Mount Read Boulevard and the right turn roadway would not be necessary. The proposed concepts were reviewed with the Gallina Development Corporation and ultimately the right turn arrangement was incorporated into the base concept for the corridor vision plan.



Section 4: Corridor Vision Plan

This phase of the study focused on the development of transportation solutions to address identified safety, operational, infrastructure, mobility, and multimodal deficiencies along the Mount Read Boulevard corridor. The goal was to devise a cohesive plan that would act as a cornerstone for the effort to make Mount Read Boulevard a better place to live, work, and do business in the future.

Comments made by the Project Advisory Committee (PAC), stakeholders, business owners, and the public were considered during concept development. The City of Rochester also worked closely with representatives from the New York State Department of Transportation (NYSDOT), Monroe County Department of Transportation (MCDOT), and the Town of Greece to ensure that the vision plan could be backed by those entities as a viable starting point for future projects. The concepts continued to evolve, even after a public open house, as a result of special meetings requested by interested property owners and businesses. It is reasonable to expect that the vision plan presented in this document will continue to evolve between now and the time a project is (or multiple projects are) implemented. Regardless, it does present a unified starting point.

As noted in Section 2.1.1, the character of Mount Read Boulevard and its surroundings change as one travels from south to north along the corridor. Therefore it would be impractical to apply a “one size fits all” template for improvements along the entire 4.4 miles. In fact, interested residents, employees, business owners, and community members wanted the plan to remain respectful of the unique characteristics within each area. The concepts outlined in this document reflect those differences, however there is a common theme of continued traffic flow, access, and mobility for goods producing industries and other employers along the corridor.

4.1 Description of the Vision Plan

It is likely that improvements would be built in several phases over the next 20 years given the significant scope of change for the 4.4 mile corridor. The vision plan for Mount Read Boulevard has therefore been broken up into six (6) distinct segments, each relating to a suggested phase. The suggested phasing is illustrated on Exhibit 4.1(1) in Appendix E. The order of stages could vary depending on need, consensus, and funding availability.



Phases A through C cover the southern commercial-residential portion of the corridor from the NYS Route 33 (Buffalo Road) traffic circle to NYS Route 31 (Lexington Avenue). Phases D and E cover the more industrialized portion of the corridor from Lexington Avenue north to the NYS Route 104 (West Ridge Road) interchange. Phase F extends from the West Ridge Road interchange to Stone Road in the Town of Greece.

The corridor vision plan is illustrated in Exhibit 4.1(1) of Appendix E. Incorporated into Exhibit 4.1(1) are brief summaries of key elements and considerations. The graphic is also color coded to coincide with the suggested phasing. A brief description of specific concerns, summary of suggested improvements, description of projected benefits, and an indication of next steps is provided in the following sections. The sections are also color coded and labeled to correspond with each suggested phase.

An opinion of probable cost was developed to facilitate project planning activities. Construction cost estimates include a contingency for unknown or unforeseen elements of work and other foreseeable costs including work zone traffic control, survey, contractor mobilization, etc. Construction cost estimates do not cover environmental mitigation or remediation, access modifications for adjacent properties, detailed utility relocations, property acquisition, or engineering activities. In some cases those elements have been estimated separately. Where a significant amount of additional detail would be needed to accurately forecast those costs, this has been noted and they have been omitted. A tabulation of the planning level opinion of probable cost for each phase is provided in Exhibit 4.1(2) of Appendix E.

A

4.1.1 Phase A: NYS Route 33 (Buffalo Road) Intersection

Exhibit 4.1 (1), Sheet 1 of 6, Appendix E

Goal

Improve guidance, safety, and multimodal connectivity.

Concerns

A combination of signals, poor signing, and lack of lane use markings at the traffic circle fails to provide clear direction to motorists. This location ranked in the second highest tier in the accident “hot spot” study. Accessible pedestrian and bicyclist facilities are lacking.

Discussion

Conversion of the signalized traffic circle at Buffalo Road into a roundabout received strong support from the public, PAC, and NYSDOT throughout the visioning process. A roundabout is an alternative form of circular intersection. It is similar to a traffic circle, however in a roundabout, vehicles move counterclockwise around a raised, central island. Entering vehicles always yield to circulating vehicles.

The existing traffic circle has between 2 and 3 lanes on its approaches. The same is true of the circulatory roadway. Movements are controlled by a traffic signal. Planning level traffic analyses suggest the two to three lane circulatory roadway could be reduced to a single lane. Likewise, no individual approach would need more than two lanes. Where two lanes are needed, one of those lanes would function as an exclusive right turn lane. The signals would be removed and all entering traffic would yield to circulating vehicles.

Despite fewer lanes, a single lane roundabout would have adequate capacity to handle future traffic volumes. A reduction in lanes, coupled with new pavement markings and signs, would improve the quality of guidance provided to motorists and eliminate weaving and merging movements. These changes are expected to reduce the number of accidents experienced and improve safety.



Illustration of the proposed roundabout at Mount Read Boulevard and NYS Route 33 (Buffalo Road)

Truck and bus mobility would be maintained. Buses would navigate the proposed intersection using the circulatory roadway. A truck apron would be installed along the inside of the circulatory roadway. This traversable feature would have a contrasting color and texture. It would also be slightly raised to discourage vehicles from driving on it with their front wheels. The function of a truck apron is to accommodate the rear wheels of a tractor trailer combination (WB-67 design vehicle) as it negotiates the circle.

Each entry and exit would be divided by a splitter island. Splitter islands would be curbed and designed with curves that slow entering traffic. Vehicles typically operate at speeds 20 miles per hour or lower through a roundabout. The existing traffic circle does not provide accessible crossing features for pedestrians or bicyclists. Under the proposed concept, pedestrians could cross each leg of the roundabout, one direction of traffic at a time, and would be afforded refuge from oncoming traffic within the raised splitter islands. Paths through the islands would be lowered to the same grade as the roadway to allow pedestrians, wheelchairs, strollers, and walked bicycles to pass through easily. All crossings would feature detectable warnings and slopes in accordance with Americans with Disabilities Act (ADA) requirements. Each crosswalk would be highlighted with high-visibility markings.



Experienced bicyclists would be able to share the roundabout with vehicular traffic. Less confident riders would have the option of dismounting their bicycle and utilizing the intersection as a pedestrian. The City of Rochester currently has a mix of bicycle lanes and shared lane markings (i.e. “sharrows”) on Buffalo Road west of the intersection and plans to add bicycle lanes to the east under a resurfacing project in 2016.

Access to adjacent properties would be retained. The exact details of driveway location and size would be determined during future phases of design. The proposed roundabout would fit largely within the footprint of the existing traffic circle. New curb, drainage, sidewalks, curb lawns, landscaping, and ornamental lighting would complete the package. Significant utility relocations are not anticipated.

Benefit

Conversion to a modern roundabout would improve overall safety for all users including motorists, bicyclists, and pedestrians. Removal of the traffic signals would promote energy efficiency. Aesthetic improvements would enhance this location’s prominence as a gateway to the corridor.

Probable Cost

The planning level opinion of probable construction cost for improvements at the Buffalo Road intersection is \$2.0 million. Estimating assumptions are summarized below.

- Work on all four (4) approaches.
- Full depth pavement reconstruction within the limits of the proposed roundabout
- Installation of new concrete sidewalks, ornamental street lighting, landscaping, closed drainage, marking, and signing.

Next Steps

The New York State Department of Transportation (NYSDOT) has considered converting the Buffalo Road traffic circle to a roundabout in the past. It may be possible to convert the traffic circle to a functional roundabout by removing the signals, changing signs, modifying markings, and minor roadway and sidewalk work without fully reconstructing the intersection. Full reconstruction would improve the geometry of the approaches and control entry speeds, particularly on the eastbound approach. It would also help address any concerns regarding poor pavement. Pending the results of a full accident study, the Federal Highway Administration’s (FHWA) Highway Safety Improvement Program (HSIP) may be a suitable source of funding for improvements at this location. New York State Transportation Program (non-federal aid) funds could also present a potential funding source.



B

4.1.2 Phase B: NYS Route 33 (Buffalo Road) to NYS Route 31 (Lyell Avenue)

Exhibit 4.1 (1), Sheet 1 of 6, Appendix E

Goal

Improve pavement condition, safety, bicyclist accommodation, and neighborhood character.

Concerns

Mount Read Boulevard has the character and feel of a “well-worn,” populated urban arterial between Buffalo Road and NYS Route 31 (Lyell Avenue). This segment has a mix of established industrial, commercial, and residential land uses. The existing pavement surface, outside the I-490 interchange, is in fair to poor condition based on field observations. The existing 4 foot wide concrete reflecting mall (median) is also in poor condition. The Jay Street intersection ranked in the second highest tier of the accident “hot spot” study. The stretch of Mount Read Boulevard from Jay Street to Lyell Avenue was also considered a “segment of interest.” The *City of Rochester Bicycle Master Plan* rates the level of service provided to bicyclists between Buffalo Road and Lyell Avenue as poor (LOS E or F).

Discussion

The vision plan would address poor pavement conditions by reconstructing the roadway. Reconstruction would offer an opportunity to improve the aging drainage systems beneath the pavement if determined necessary during design. The majority of this segment has 3 travel lanes in each direction. The concept involves a reduction from 3 to 2 travel lanes in each direction. The new travel lanes would be 12 feet wide to accommodate tractor trailer traffic. Future volumes, with background growth and development to the north, are projected to remain at a level that can be supported by two travel lanes in each direction (between intersections) based upon planning guidelines established by the NYSDOT. This change would also eliminate an existing northbound merge (left lane ends) on approach to the I-490 interchange which would reduce the potential for sideswipe accidents between Maple Street and the Interstate ramps.

The City of Rochester is always in search of short and long-range opportunities to improve its bicycling infrastructure. Removal of the deteriorated 4 foot wide concrete median, coupled with the change from 3 to 2 lanes, would open up additional pavement width for reallocation as a dedicated 5 foot wide bicycle lane in each direction. This would vastly improve bicycle level of service on this segment of the corridor, providing full connectivity between Buffalo Road and Lyell Avenue.

The remainder of the existing pavement width could be repurposed in two different ways. The base concept includes an 11 foot wide two-way center left turn lane. Two-way center left turn lanes typically appear in the middle of a roadway for use by vehicles making left turns in both directions from or into a roadway. This element could enhance safety by reducing the potential for rear-end collisions in the left hand lane. Benefits would be particularly felt in the segment between Jay Street and Lyell Avenue where there is a high density of residential driveways. Short and long term parking however, would be eliminated under this concept as adding parking lanes to expand the pavement beyond its existing width was not considered desirable by the PAC.

A second concept (Option A) would include on-street parking lanes (as width permits) in lieu of the two-way left turn lane. The on-street parking lanes would be interrupted by driveways, therefore the entire length of parking lane would not be available for use. Assuming an average parking space length of 22 feet, the approximate usable percentage of parking between Buffalo Road and Lyell Avenue would be as follows:



- NYS Route 33 (Buffalo Road) to Maple Street: 75% west side, 70% east side
- Jay Street to NYS Route 31 (Lyell Avenue): 65% west side, 45% east side

An option that would provide parking without bicycle lanes was not considered because it would not satisfy the project objectives.

A new southbound right-turn lane would be added between Garland Avenue and the I-490 westbound on-ramp. This change, coupled with the proposed reduction in travel lanes, would reduce conflicts between through and turning vehicles and mitigate the potential for rear-end accidents at this location.

Neighborhood character would also be improved. Existing sidewalks would remain primarily in their existing location. Pedestrian crossings would be improved with ADA accessible curb ramps, detectable warnings, and high visibility crosswalks. Landscaping and ornamental lighting would be installed in the curb lawn to complete the package. Stakeholders and the public did not ask for a highly ornamented, landscaped median or curb lawn treatment. Modest, low-maintenance treatments were preferred. Significant utility relocations are not anticipated.



Illustration of the proposed corridor improvements at Mount Read Boulevard and Jay Street (Looking North)

Benefit

The vision plan would transform Mount Read Boulevard into a “complete street.” Complete streets are roadways planned and designed to consider the safe, convenient access and mobility for all roadway users of all ages and abilities including bicyclists, transit riders, and motorists. This would be readily accomplished within the existing roadway’s footprint by reallocating use of the existing pavement and adding enhancements behind the curb. These changes would be consistent with New York State’s *Complete Streets Act* which requires state, county, and local agencies to consider the convenience and mobility of all users when developing transportation projects that receive state and federal funding.



Probable Cost

The planning level opinion of probable construction cost for improvements between Buffalo Road and Lyell Avenue is \$7.3 million. Estimating assumptions follow.

- Full depth pavement reconstruction and new curb from Buffalo Rd to the I-490 eastbound ramps and from the I-490 westbound ramps to Lyell Ave.
- Mill and resurface Mount Read Blvd within limits of the I-490 interchange.
- New signalized intersections with pedestrian accommodations at Maple St and Jay St with minor signal improvements at the I-490 Westbound ramp intersection.
- A new closed drainage system, pavement markings, and signing.
- Installation of new concrete sidewalks, ornamental street lighting, and landscaping.

Next Steps

The drainage system in this segment is old. Additional investigation and study is needed to determine the extent of repair or replacement that needs to be undertaken. If the need for repairs is minimal, the plan could be scaled back to involve spot drainage repairs in conjunction with milling and resurfacing.

The NYSDOT has suggested it may conduct a pavement maintenance project (milling and resurfacing) on this segment of Mount Read Boulevard in the relatively near future. That project represents an opportunity to integrate several of the street improvements (removal of the existing 4 foot wide “concrete reflecting mall,” reallocation of travel lanes, and the integration of bicycle lanes) suggested in the vision plan. Surface Transportation Program (STP) funds or National Highway Performance Program (NHPP) funds (I-490 to Lyell Avenue only) might be sought for a larger scale project. New York State Transportation Program (non-federal aid) funds could also present a potential funding source.



4.1.3. Phase C: NYS Route 31 (Lyell Avenue) Intersection

Exhibit 4.1 (1), Sheet 2 of 6, Appendix E

Goal

Improve safety, congestion, truck accommodation, and pedestrian accommodation.

Concerns

The intersection of Lyell Avenue with Mount Read Boulevard ranked in the top tier of the accident “hot spot” study. Vehicles park along the right side of southbound Mount Read Boulevard during arrival and dismissal times for School No. 43. Tractor trailers encroach on multiple lanes when completing a right turn. The western outer drive intersects Lyell Avenue in close proximity to the signalized intersection. The intersection also suffers from peak hour congestion.

Discussion

One of the most often mentioned concerns regarding the Lyell Avenue intersection revolved around on street pick up and drop off activity at School No. 43 just to the south. As described in Section 4.2.2, that segment of Mount Read Boulevard would be reconfigured to include 2 through lanes and a marked bicycle lane in each direction. The northbound approach to the intersection would feature a 450 foot long raised median to visually separate northbound and southbound traffic, define the left edge of the left turn lane, and prevent southbound left turns and U-turns as a safety measure.



During arrival and dismissal times at School No. 43, school buses routinely line the east side of Maltby Street while private vehicles form a queue along the west side of Mount Read Boulevard. Occasionally a line of private vehicles on Mount Read Boulevard was observed extending past the limits of the legal, short term, parking zone. When occupants open doors to exit or enter their vehicles on the driver side, they expose themselves to the possibility of being hit by a moving vehicle. Anecdotal evidence suggests that vehicles also occasionally “double park,” elevating the potential for a rear end collision.

The base concept would eliminate the existing hatched area and 15 minute parking zone along the west side of Mount Read Boulevard, south of the Lyell Avenue intersection. Pick-up and drop-off activity would need to be relocated to another on or off site location. If elimination or relocation is not possible, an alternate approach might involve the creation of an 8 foot wide (minimum) recessed parking area, separated from the right hand, southbound travel lane by the 5 foot wide dedicated bicycle lane. Refer to page 2 of Exhibit 4.1(1) for an illustration of this alternate. The treatment would require alterations to the existing sidewalk in front of the school. It would not prevent motorists from opening their doors and stepping into traffic (motor vehicle or bicycle), but it would offer some measure of separation for these individuals from moving cars and trucks.

Tractor trailers encroach on multiple lanes when completing a right turn under existing conditions. The proposed concept would modify the curb radius in each corner allowing tractor trailers to stay in their departure lane as they swing from one road to the next. Additional property (corner acquisitions) would be required to construct the proposed improvements, however at the conceptual stage, it does not appear as though the entire Auto Junction or Auto Loft properties would be impacted.

The West Outer Drive intersects Lyell Avenue immediately west of the signalized intersection. The connection is not controlled by the signal. It allows all inbound movements but restricts exiting traffic to right turns only. The outer drive currently functions as a driveway to the Lyell Avenue Plaza and ABC Supply Company.

Based on guidance in the NYSDOT Highway Design Manual, the 14 ft wide entrance should lie at least 43 feet away from the edge of the closest southbound travel lane on Mount Read Boulevard. These points are approximately 35 feet apart. In addition, the width of the island between the entry and exit should be at least 30 feet wide, however it measures only 9 feet across. If this access were designed today, it would not be considered acceptable on the basis of access and safety.

Removing the West Outer Drive connection would require coordination with the ABC Supply Company. Currently that business has access from the east side of their building, through their parking area, and out to Lyell Avenue near Dodge Street. That route could require upgrades or realignment to ensure continued functionality of their access and safety of those using their parking lot. Impacts to the Lyell Avenue Plaza should be minimal. That development currently has 3 other driveways to Lyell Avenue. If complete removal is not possible, consideration could be given to closure of the entrance and leaving the right-out exit intact.

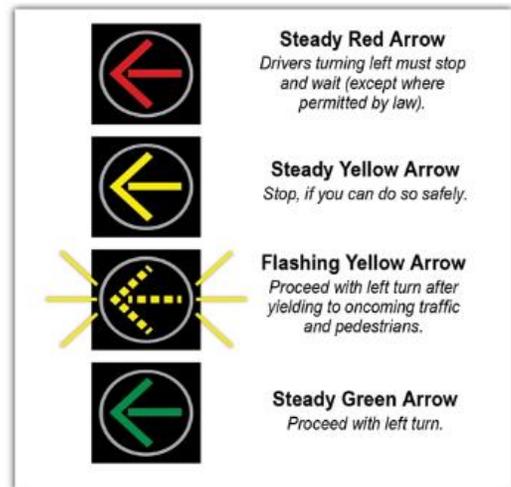
Curb ramps would be brought up to meet ADA requirements in conjunction with the work in each corner. High visibility crosswalks would also be installed. Pedestrian signals would be upgraded to include countdown timers showing the amount of time available to cross the street during the flashing don't walk interval.



With businesses and School No. 43 occupying all four intersection corners, space is limited to expand the intersection. It simply isn't practical to add lanes to increase capacity to reduce congestion. Therefore, the conceptual improvements would retain the existing vehicular lanes on all approaches.

There is however, a potential to improve traffic flow during off peak periods in conjunction with the installation of new traffic signal equipment. For example, left turning traffic on all approaches to the Lyell Avenue intersection can only move when a green arrow is displayed. This is known as "protected only" operation. The existing signal heads and traffic signal control equipment (microcomputer) are not capable of allowing a different operation plan during other times of the day. If the signal were replaced with state of the art equipment, that system could allow for protected only turns during peak periods and permissive turns during other times of the day.

This could be accomplished using a flashing yellow arrow. The existing three section signal heads with a red arrow, yellow arrow, and green arrow would be replaced with a four section head that also has a flashing yellow arrow. Studies by the FHWA have demonstrated that left turn signals with flashing yellow arrows help prevent crashes, have the potential to move more traffic through an intersection, and provide additional traffic management flexibility. Flashing yellow arrows have been installed successfully nationwide. Locally, there is an installation at the intersection of NYS Route 441 and Linden Avenue. Another installation is planned for NYS Route 252 (Jefferson Road) at Brighton-Henrietta Town Line Road. In the case of the Lyell Avenue intersection, this type of operation might allow for a shorter cycle length and lesser delays on all approaches during off peak periods.



Flashing Yellow Arrow Indications – Source: Indiana Department of Transportation

Likewise, new controller equipment could allow for the incorporation of leading pedestrian intervals during selected times of the day such as arrival and dismissal at School No. 43. A leading pedestrian interval provides a few seconds of additional walk time to pedestrians before the concurrent (green) vehicular phase gets moving. This allows pedestrians to establish themselves in the crosswalk first, improving both their mobility and visibility to drivers.



Ornamental Lighting

It is anticipated that the ornamental lighting system would end at the Lyell Avenue intersection, signifying a change from an urban street to the highway environment extending northward. Pedestrian improvements would include the installation of high-visibility crosswalks and pedestrian countdown timers. Overhead and underground utilities may require relocation to accommodate construction of the proposed concept, especially given the proposed modifications in the corners of the intersection.

Probable Cost

The planning level opinion of probable construction cost for improvements at the Lyell Avenue intersection is \$3.5 million. Estimating assumptions are summarized below.



- Full depth pavement reconstruction with new curb and a hardscape median on Mount Read Blvd.
- Full replacement of the existing traffic signal system.
- Replacement of the existing closed drainage system.
- New signing and marking.
- Installation of new concrete sidewalks, ADA compliant curb ramps, ornamental street lighting and landscaping.

Next Steps

Continued outreach to affected businesses and institutions is recommended. Attempts were made to contact officials from School No. 43 to discuss the vision plan, however no response was received. Representatives of the school did not attend the public meetings or comment on presentation materials posted to the City's website. Regardless, on street parking in this area has been identified as a concern and changes are likely to be of significant interest to the school. The ABC Supply company should also be engaged in a discussion regarding their current access to Lyell Avenue and the benefits and drawbacks of possible alternate strategies.

Preliminary design activities are needed to determine the potential property impacts to the Auto Junction and Auto Loft properties (northeast and southeast quadrants). Before implementing a leading pedestrian interval, the allocation of additional time to pedestrians would should be studied further in order to determine the potential impact on vehicular operations.

Possible funding sources for improvements at the Lyell Avenue intersection might include the National Highway Performance Program (NHPP), Surface Transportation Program (STP), and Highway Safety Improvement Program (HSIP). New York State Transportation Program (non-federal aid) funds could also present a potential funding source.

D

4.1.4. Phase D: NYS Route 31 (Lyell Avenue) Intersection to Driving Park Avenue

Exhibit 4.1 (1), Sheet 3 of 6, Appendix E

Goal

Improve traffic control and geometry at the closely spaced intersections involving Mount Read Boulevard's inner and outer drives at Lexington Avenue, Emerson Street, and Driving Park Avenue. Enhance accommodation and safety for crossing motorists, bicyclists, and pedestrians at each intersection. Improve the condition of the existing infrastructure.

Concerns

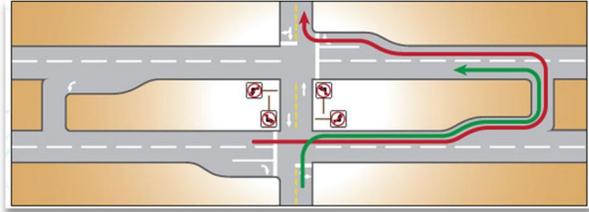
Stakeholders and the public were adamant that changes not erode the quality of operations, mobility, and access afforded to existing businesses and remain supportive of continued economic revitalization. There were no calls from the public for a lower speed limit. The outer drive intersections are controlled by stop signs while mainline Mount Read Boulevard and the side street approaches are controlled by signals. Complex traffic control at these locations places a heavy load on drivers which negatively impacts safety and leads to accidents. The Driving Park Avenue intersection ranked in the third highest tier of the accident "hot spot" study while the Lexington Avenue intersection was in the top tier. The existing lighting and traffic signal systems are in need of replacement.



Discussion

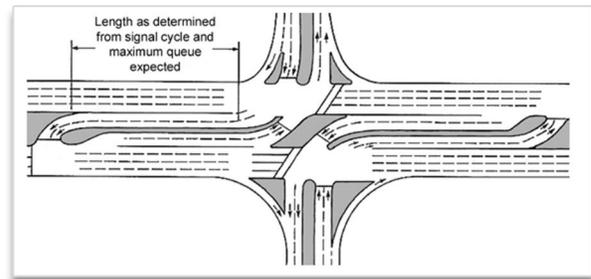
A number of different possibilities were considered for intersection configurations within this segment of the corridor during the vision plan development process. For illustrative purposes, two are described below.

- Michigan Left:* Would prohibit left turns from Mount Read Boulevard at signalized intersections and force them to do a U-turn downstream. From there, vehicles would re-enter Mount Read Boulevard in the opposing direction and then head toward their intended destination via a right turn. The existing right-of-way along Mount Read Boulevard, inclusive of the Outer Drives, would not be wide enough to construct U-turn openings of sufficient size to safely accommodate full size (WB-67) tractor trailer turns. The difference in grade at the Rochester and Southern Railroad crossing would also present an issue between Emerson Street and Lexington Avenue.



Michigan Left – Source: MichiganHighways.org

- Superstreet Intersection:* Would prohibit through movements on the crossing roadways (e.g. Lexington Avenue), forcing them to turn right on to Mount Read Boulevard, then make a U-turn, and then continue toward their intended destination via a right turn. Again, the existing right-of-way along Mount Read Boulevard would not be adequate to allow for WB-67 U-turns. In addition, prohibiting through movements across Mount Read Boulevard would significantly impede mobility and business accessibility.



Superstreet Intersection – Source: FHWA

In short, the width of the existing corridor, need to accommodate full size tractor trailer turns, and desire to maintain business and industry access led the study team and PAC in the direction of the improvements outlined in the vision plan. Many features are consistent throughout the entire segment of the corridor while others would be dedicated to specific intersections.

Common Features

There are several vision plan features that would be common along the entire segment. They include the following:

- A minimum of two 12 foot wide travel lanes in each direction
- A wide turf median
- Sidewalks primarily on existing alignment
- A new coordinated traffic signal system
- A new standard (non-ornamental) lighting system



Bicyclist Accommodation

The built-up nature of the corridor, coupled with a high density of access points, and the need to keep the facility wide enough to maintain truck mobility, limits the opportunity to create a continuous, separate shared use facility. Therefore, the base concept includes one 5 foot wide bicycle lane in each direction. Marked bicycle lanes would provide a direct connection from Lyell Avenue to Driving Park Avenue, enhancing accommodation for commuter bicyclists. However, one might expect limited use by recreational or less experienced cyclists due to the composition, speed, and volume of adjacent traffic.

During vision plan development, members of the public, including business owners whose driveways generate truck trips, questioned the placement of bicycle lanes along this segment of Mount Read Boulevard. Participants voiced concerns over potential conflicts involving bicyclists and large trucks. If 8 foot wide shoulders were constructed in lieu of marked bicycle lanes, this would provide accommodation for experienced cyclists and room for turning movements and breakdowns. Bicyclists would continue to have the use of local streets including Glide Street and Norman Street as an alternate route to Mount Read Boulevard between Lyell Avenue and Driving Park Avenue. Bicyclists could also utilize any remaining portions of the Outer Drives, although because they do not provide continuous connectivity, they would be more appropriate for localized travel.

Intersection Improvements

Conceptual improvements to each of the 3 signalized intersections in this segment of the corridor would facilitate crossing by vehicles, bicyclists, and pedestrians. Eliminating the Outer Drive connections would remove the need for multiple stop lines and signs, making each intersection simpler and easier to navigate. Simplifying each intersection would reduce competing demands for driver attention and in return, enhance safety. It would also simplify truck turn movements. High visibility crosswalks would be added with curb ramps meeting ADA requirements. Pedestrian refuge areas would be incorporated into each median. New signal systems would incorporate pedestrian push buttons, signals, and countdown timers.

Lyell Avenue to Emerson Street

West Outer Drive – The West Outer Drive would be removed between Ferrano Street and Emerson Street and replaced with a third southbound through lane on Mount Read Boulevard. All driveways would be directly connected to Mount Read Boulevard.

East Outer Drive – The East Outer Drive would be disconnected from Mount Read Boulevard at Emerson Street. A turnaround would be constructed near the existing apartment complex. A driveway would be extended to the City of Rochester Fire Station.

U-Turns – A median break near Bergen Street would allow southbound tractor trailers to make a U-turn. This would maintain access to Mount Read Boulevard northbound for properties located along this segment's west side. In addition, northbound tractor trailer combinations would be permitted to make a U-turn at the Emerson Street intersection.

Other – The northbound left turn lane and acceleration lane at Ferrano Street would be reconfigured. Current access would be maintained.



Emerson Street to Lexington Avenue

Outer Drives – In this segment, the Outer Drives would be converted into a one-way couple. The West Outer Drive would carry southbound traffic and the East Outer Drive would carry northbound traffic. Converting the East and West Outer Drives to a one-way couple would require two new signalized, at-grade railroad crossings of the Rochester & Southern Railroad.

U-Turns – Northbound and southbound passenger cars would be able to make a U-turn at the Lexington Avenue intersection. Northbound tractor trailers would have to proceed to Driving Park Avenue to make a U-turn. Southbound trucks could make a U-turn at Emerson Street.

Both the northbound (East Outer Drive) and southbound (West Outer Drive) parts of the one-way couple in this segment would reconnect to Mount Read Boulevard in close proximity to the Emerson Street and Lexington Avenue signalized intersections. This would make it difficult for vehicles, especially tractor trailers, to reach the left turn lane and complete a U-Turn. Instead, these vehicles would need to negotiate a “corridor U-turn route” as illustrated on Exhibit 4.1.4 in Appendix E.

Other – Repairs would be made to the retaining walls beneath the Rochester & Southern Railroad overpass.

Lexington Avenue to Driving Park Avenue

West Outer Drive – Under the base concept, the northern end of the West Outer Drive would be realigned to meet an extended Driving Park Avenue, away from its signalized intersection with Mount Read Boulevard. The final location of the realigned drive and intersection would be determined during a future phase of design based on property and access considerations.

Two way traffic would be permitted up to 1425 Mount Read Boulevard. Initially, the West Outer Drive was to terminate at this point, however during vision plan development, the owner of 1425 Mount Read Boulevard approached the City of Rochester with concerns about traffic cutting through their parking area and the safety of persons entering and exiting their building. In response, the study team investigated and developed two potential options. The first option, now included in the base concept, would allow southbound traffic to continue from 1425 Mount Read Boulevard to Lexington Avenue. All vehicles would be required to turn right at Lexington Avenue. Through movements are allowed today, but would no longer be possible. Left turns are already restricted. Construction would require an acquisition from the adjacent property.

A second option could be considered viable in the event that dedicated bicycle lanes are not included in the proposed plan or property acquisition for the right turn at Lexington becomes problematic. In this case, the West Outer Drive would be eliminated in favor of a third southbound lane, similar to that proposed between Ferrano Street and Emerson Street. Driveways to neighboring properties would be connected to Mount Read Boulevard’s southbound inner drive.

The western extension of Driving Park Avenue would provide access to adjacent redevelopment sites in the City of Rochester and Town of Greece. Pending development plans, a future roadway could be built along the back side of the existing parcels on Mount Read Boulevard’s west side with a connection to Lexington Avenue. The new road could potentially serve both the redevelopment



site and buildings along Mount Read Boulevard if accesses can be reconfigured to come from the west (i.e. back lot). If this road were built and accesses reconfigured, the West Outer Drive and optional third lane could be eliminated from the plan.

U-Turns – Southbound passenger cars could make a U-turn at Lexington Avenue. Southbound tractor trailers would need to continue to Emerson Street to make a U-turn. Northbound passenger cars and trucks would both be able to make a U-turn at Driving Park Avenue. A bulb-out, similar to those found on West Ridge Road (NYS Route 104) near the Lowes Plaza, would be installed on the west side of Mount Read Boulevard just south of the intersection to facilitate the movement.

Other – Mount Read Boulevard would transition from a curbed roadway to one with shoulders north of Lexington Avenue. The inside (left hand) shoulder would be 4 feet wide in each direction while the outside (right hand) shoulder would be 8 feet wide.

The vision plan includes an extension of Driving Park Avenue to the west of Mount Read Boulevard. That spur would serve areas slated for redevelopment the west of the corridor. In conjunction with the extension, the vision plan includes the realignment of Driving Park Avenue to the east. This would eliminate what would otherwise become an offset intersection. Driveways to the GM Components facility and the UA Local 13 Plumbers & Pipefitters Office/Monro Muffler would be reconnected to Driving Park Avenue, assuring continued access and mobility for those establishments.

Benefit

The vision plan for Mount Read Boulevard from Lyell Avenue to Driving Park Avenue would simplify traffic control, geometry, and operations at each of the three intersections in this segment of the corridor, thus enhancing overall safety. Accommodation for all modes of crossing traffic including pedestrians, bicyclists, and motorists would be improved thus making Mount Read Boulevard less of a barrier to eastbound and westbound traffic. Access to adjacent and abutting properties would be maintained, ensuring continued support for the corridor's economic revival. The physical condition of the infrastructure including roadway, retaining walls, signals, and lighting would also be improved.

Probable Cost

The planning level opinion of probable construction cost for improvements between Lyell Avenue and Driving Park Avenue is \$22.9 million. Estimating assumptions are summarized below.

- Full depth pavement reconstruction (4 travel lanes with bicycle lanes or shoulders) with curb and median on Mount Read Boulevard from Lyell Avenue to north of Emerson Street.
- Milling and resurfacing of Mount Read Boulevard between Emerson Street and Lexington Avenue and from Lexington Avenue to Driving Park Avenue.
- Full depth shoulder reconstruction and curb installation on Mount Read Boulevard between Emerson Street and Lexington Avenue.
- Full depth reconstruction of shoulders on Mount Read Boulevard between Lexington Avenue and Driving Park Avenue.
- Full depth pavement reconstruction (2 travel lanes) on the East Outer Drive from Bergen Street to Emerson Street and from Emerson Street to Lexington Avenue.
- Full depth pavement reconstruction (2 travel lanes) on the West Outer Drive from Emerson Street to Lexington Avenue and Lexington Avenue to Driving Park Avenue.



- Installation of a new retaining wall along the west side of Mount Read Boulevard at Ferrano Street and rehabilitation of existing walls between Emerson Street and Lexington Avenue.
- Full depth reconstruction and new signalized intersections with turn lanes and pedestrian accommodations at Emerson Street, Lexington Avenue, and the realigned Driving Park Avenue.
- New at-grade railroad crossings on the East and West Outer Drives at the Rochester and Southern Railroad.
- Installation of new concrete sidewalks adjacent to full depth reconstruction areas, standard street lighting, modest landscaping, guiderail, closed and open drainage systems, signing, and pavement markings.

Next Steps

The land-locked nature of parcels in the block formed by Emerson Street (south), Lexington Avenue (north), Stenson Street (west), and Norman Street (east) hampered the development of a concept that would completely eliminate Outer Drive access adjacent to the Emerson Street and Lexington Avenue intersections. The difference in elevation between Mount Read Boulevard's outer and inner drives at the Rochester and Southern Railroad crossing would require driveway slopes too steep to connect the adjacent parcels to the inner drives. Simply cutting these parcels off is not an option as that would severely affect business access, mobility, and viability. Likewise, removal of the railroad spur would be counterproductive to continued economic growth and development along the corridor. As a result, the current vision plan retains entering and exiting movements in reasonably close proximity to the intersections, although not ideal from a safety or operational standpoint.

Transforming the West and East Outer Drives into a one-way couple would require the creation of two new at-grade railroad crossings. While the Rochester and Southern Railroad is a relatively low speed, low volume spur, this would not change the process for approval. A compelling case would need to be made for these crossings on the basis of safety, operation, and economic development potential. It is likely that a Railroad Hearing would be required to obtain approval, which is held in the presence of an Administrative Law Judge. The approval process can be lengthy and involved. If the one-way couple concept were to move forward, ample time must be built into the project schedule. Alternative (e.g. "back lot") access to establishments in the northwest corner of the intersection of Mount Read Boulevard and Emerson Street would also need to be coordinated along with alternate access to the Jasco Tools loading dock.

In the end, the study team concluded that *the issues facing this segment of the corridor cannot be solved by a transportation infrastructure solution alone*. The scope of the best solution clearly exceeds that of this study. That however, does not mean that there is no path forward for improvement. Instead, advanced planning of future growth and redevelopment between Emerson Street and Lexington Avenue can help the community solve the safety, mobility, and access issues. Moving forward, a *comprehensive land use development and access plan* should be developed for this segment of the corridor by the City of Rochester, partner agencies, developers, and land owners. In that way, new transportation options can be developed hand in hand with building plans in a manner that realizes benefits for landholders, the community, and traveling public.

Subsequent to the second public meeting, the City of Rochester was contacted by and met with several individual property owners and business leaders in this segment of the corridor to discuss individual driveway, access, and property concerns. Given the scope of changes in access proposed by the vision plan between Lyell Avenue and Driving Park Avenue, it is recommended that a robust and targeted public outreach effort be integrated with any future design efforts to ensure that the needs of the business



community are met and this segment of Mount Read Boulevard continues to be seen as a prime location for business and industry.

Environmental screenings to determine what, if any impact the presence of contaminated material might have on the design and construction of the proposed improvements along with property acquisition activities would be an important step in the design process. Possible funding sources for improvements between Lyell Avenue and Driving Park Avenue might include the National Highway Performance Program (NHPP), Surface Transportation Program (STP), Highway Safety Improvement Program (HSIP), and Public/Private/Partnerships (PPP) as redevelopment occurs. New York State Transportation Program (non-federal aid) funds could also present a potential funding source.



4.1.5. Phase E: Driving Park Avenue to NYS Route 104 (West Ridge Road)

Exhibit 4.1 (1), Sheets 4 and 5 of 6, Appendix E

Goal

Improve the geometry, control, and safety of connections between Mount Read Boulevard's outer and inner drives.

Concerns

This segment of Mount Read Boulevard is more like a freeway than any other portion of the study corridor. In general, the public and stakeholders saw little need for changes along the inner drives but recognized that the connections between those roadways and the outer drives could be improved.

Short exit and entrance ramps require motorists to either decelerate in traffic or get up to speed quickly. Sharp angles between the roadways can require motorists to look back over their shoulder to observe oncoming traffic. This can be a difficult move to make, in particular for the elderly. The application of stop and yield signs also varies from location to location along the West Outer Drive. A lack of space to store stopped vehicles between the outer and inner drives requires unexpected stop signs on the West Outer Drive. The potential for stop and start movements, limited storage space, and the mixing of traffic with different speeds increases the potential for accidents. Eastman Kodak has also expressed concerns about vehicles parking along the shoulder of the East Outer Drive at their frontage.

Discussion

Common Features

The vision plan for Mount Read Boulevard between Driving Park Avenue and the West Ridge Road interchange would keep the inner drives essentially unchanged. The same would be true of the on ramp to Mount Read Boulevard (northbound) from Ridgeway Avenue. Routine maintenance activities including milling, resurfacing, marking replacement, and signing upgrades would keep the facility functioning well into the foreseeable future. Lighting replacements from the south would be continued up through this portion of the corridor.

Driving Park Avenue to Ridgeway Avenue

The West Outer Drive would be removed from Driving Park Avenue to a point approximately ¼ mile south of Ridgeway Avenue. It would be replaced by an extended on-ramp and an acceleration lane. The driveway just south of the Torvec building would be connected directly to Mount Read Boulevard and modified to



allow for right turns only. The remaining segment of the West Outer Drive would continue to carry two-way traffic. Access to properties to the north, including Foodlink and the Ardda Animal Hospital, would stay unchanged. The short entrance ramp across from the Foodlink building would be eliminated along with the northbound stop sign on the Outer Drive. Foodlink traffic and that from parcels to the north would utilize the new on ramp.

A one-way northbound segment of East Outer Drive would be removed from Driving Park Avenue to just south of Holleder Parkway. Today, vehicles at the Holleder Parkway intersection with East Outer Drive can only make a right turn in or a right turn out, however the geometry at this location does little to discourage wrong way movements. Under the vision plan, minor reconstruction at this location would physically reinforce the proper traffic pattern. The remainder of East Outer Drive leading up to Ridgeway Avenue would remain as it is today.

Ridgeway Avenue to West Ridge Road

Short entrance and exit ramps between West Outer Drive and Mount Read Boulevard are found north of Ridgeway Avenue (near Omni ID) and south of West Ridge Road (adjacent to a Kodak parking lot). In addition, the West Outer Drive and ramps connecting Mount Read Boulevard (southbound) with West Ridge Road (eastbound) intersect at a 50 degree angle and on a curve near Bob Johnson Chevrolet. As shown on Exhibit 2.1.4(2), each location has a unique combination of stop and yield signs. Two different options for improving geometry, standardizing traffic control, and enhancing safety were developed to upgrade these locations. In each case, full access to and from all properties along the West Outer Drive would be retained.

The base concept would relocate a portion of West Outer Drive between Omni ID and the Kodak Park Railroad. This would allow for longer on and off ramps between West Outer Drive and Mount Read Boulevard. The off ramp would be controlled by a stop sign and traffic on West Outer Drive would get the right of way.

These changes would be made in conjunction with others at the West Ridge Road interchange. The short existing off ramp from Mount Read Boulevard (southbound) to West Outer Drive near the Kodak parking lot would be removed. It and the existing off ramp from Mount Read Boulevard (southbound) to West Ridge Road (eastbound) would be replaced with a new deceleration lane and stop controlled off ramp. The existing on ramp to Mount Read (southbound) would also be eliminated along with the skewed intersection formed by the ramps and West Outer Drive. All traffic headed to southbound Mount Read Boulevard would travel along West Outer Drive and use a new on ramp just north of Ridgeway Avenue.

An alternate concept (Option B) would keep the West Outer Drive on its current alignment between Ridgeway Avenue and the Kodak Park Railroad in an effort to minimize property impacts. The existing yield controlled off ramp would remain as is, however the on ramp to Mount Read Boulevard (southbound) would be removed. Similar to the base concept, the short off ramp adjacent to the Kodak parking lot would be eliminated. A new deceleration lane and stop controlled off ramp would be built at the West Ridge Road interchange, however the West Outer Drive would be realigned to permit the construction of a new on ramp to Mount Read Boulevard (southbound) at the same location. Traffic destined for southbound Mount Read Boulevard could either utilize this new ramp or continue southbound on the West Outer Drive, across Ridgeway Avenue, and onto Mount Read Boulevard near the Foodlink building.



The base concept would require property acquisition between Ridgeway Avenue and the Kodak Park Railroad in order to realign the West Outer Drive. A lesser amount of property acquisition would be needed in the vicinity of the West Ridge Road interchange. Option B would minimize property acquisition between Ridgeway Avenue and the Kodak Park Railroad, but would impact existing properties north of the Kodak Parking lot more significantly.

Benefit

Proposed access modifications would improve safety and operation on the West Outer Drive by standardizing traffic control. In all cases, traffic on new ramps from Mount Read Boulevard would stop or yield while vehicles on West Outer Drive would have the right of way. Eliminating short connections between the inner and outer drives would reduce the potential for rear end collisions. Extended ramps would provide additional storage space for queued vehicles. Longer acceleration and deceleration lanes would separate traffic moving at different speeds, also enhancing overall safety. Though access patterns would be slightly modified in each case, actual access and mobility for all adjacent properties would be retained.

Probable Cost

The planning level opinion of probable construction cost for improvements between Driving Park Avenue and the West Ridge Road interchange is \$7.6 million. Estimating assumptions are summarized below.

- Milling and resurfacing of Mount Read Boulevard from north of Driving Park Avenue to the north side of the West Ridge Road interchange. All ramps to remain would also be milled and resurfaced.
- Full depth pavement reconstruction/new construction on the West Outer Drives and reconfigured ramps.
- Installation of new concrete sidewalks in reconstruction areas, standard street lighting, minor landscaping, drainage system reconstruction as needed, new pavement markings, and signing changes.

Next Steps

Environmental screenings to determine what, if any impact the presence of contaminated material might have on the design and construction of the proposed improvements along with property acquisition activities will be an important step in the process. Possible sources of funding for the proposed improvements might include the National Highway Performance Program (NHPP), Surface Transportation Program (STP), and Highway Safety Improvement Program (HSIP). New York State Transportation Program (non-federal aid) funds could also present a potential funding source.

F

4.1.6. Phase F: NYS Route 104 (West Ridge Road) to Stone Road

Exhibit 4.1 (1), Sheets 5 and 6 of 6, Appendix E

Goal

Develop a gateway treatment to highlight the transition between the City of Rochester and the Town of Greece. The selected treatment should also announce the change from a freeway-like facility to an arterial.



Concerns

Mount Read Boulevard has a “town center” character north of Stone Road. From the onset of the study, Town of Greece representatives expressed a desire to slow the pace of traffic and encourage drivers to behave more appropriately for an urban commercial and residential district by the time they reach Stone Road. Traffic studies showed that vehicles approaching Mount Read Boulevard on Joanne Drive experience delays during peak commuter periods. In addition, Old Mount Read Boulevard meets Mount Read Boulevard at an unconventional, skewed intersection across from Medimount Drive.

Discussion

The vision for the northernmost segment of the study corridor would introduce a narrower, raised median just south of Joanne Drive. The addition of curb, street trees, ornamental lighting, and sidewalk would signify a change from “highway” to “urban arterial.” The Town of Greece is currently considering guidelines for the implementation of bicycle lanes. Though not included in the concept at this time, the vision plan would not preclude them from being discussed and added at a future time.



Illustration of the proposed corridor improvements at Mount Read Boulevard at Joanne Drive (Looking North)

Access to Old Mount Read Boulevard would be retained at Joanne Drive. Mount Read Boulevard and Joanne Drive would therefore continue to meet at a four way intersection. The vision plan may introduce a traffic signal at this location (if warranted). Other alternatives, including a roundabout, were suggested given the potential to act as a significant gateway. Since Mount Read Boulevard would have two lanes in each direction it follows that a multilane roundabout would be needed. Neither the MCDOT nor NYS DOT were in favor of a multilane roundabout at this location, therefore it was dropped from further consideration.

Planning level traffic analyses indicate that while a signal is not warranted today, it may be in the future given implementation of the vision plan and anticipated development. A signal would address safety concerns since vehicles turning left from Joanne Drive would no longer be able to do so in two stages given the reduced median width.



The urbanized typical section would continue along Mount Read Boulevard from Joanne Drive through Medimount Drive, eventually tying into the existing roadway at Rosecroft Drive. New curvature would be introduced to Mount Read Boulevard just north of Medimount Drive. This would allow Old Mount Read Boulevard to be separated. A turnaround would be installed at the northern end of Old Mount Read Boulevard to accommodate snow plows, local delivery trucks, and school buses.

Benefit

The proposed changes would create the transition zone requested by the Town of Greece. A traffic signal at Joanne Drive would reinforce the change in roadway character and improve peak hour levels of service. Simplification of the Medimount Drive intersection and the separation of Old Mount Read Boulevard from Mount Read Boulevard would enhance overall safety and reduce cut through traffic on the northernmost portion of the old road.

Probable Cost

The planning level opinion of probable construction cost for improvements between the West Ridge Road interchange and Stone Road is \$4.0 million. Estimating assumptions are summarized below.

- Full depth pavement reconstruction of all travel lanes, installation of new curb, and a narrower raised median from just south of Joanne Drive to just south of Stone Road.
- Milling and resurfacing of Old Mount Read Boulevard from the NYS Route 104 off ramp to Medimount Drive including construction of a turnaround on the northern end.
- Reconfiguration of the Mount Read Boulevard and Joanne Drive intersection with turn lanes and (the possible addition of) a traffic signal.
- Installation of new concrete sidewalks, ornamental street lighting, landscaping, closed drainage, pavement markings, and signing.

Next Steps

The jurisdiction limit between the NYSDOT and MCDOT could be reviewed in the future in light of proposed improvements. Property acquisition would be required to realign a portion of Mount Read Boulevard north of Medimount Drive. Additional traffic studies should be performed to verify the need for a traffic signal at the intersection of Mount Read Boulevard and Joanne Drive. A possible sources of funding for the proposed improvements might be the Surface Transportation Program (STP), Monroe County, and the Town of Greece.

4.2 Multimodal Considerations

Multimodal enhancements along the Mount Read Boulevard corridor have the potential to not only improve conditions for existing uses, but to encourage others to take advantage of the facilities for both commuting and recreational purposes. As a package, these improvements would be supportive of the shift toward complete streets and society's general movement away from being solely dependent on motor vehicles for all types of travel.

4.2.1 Pedestrians

Conditions for pedestrians would be enhanced under the vision plan. In particular, the vision plan improvements would make the intersections with NYS Route 33 (Buffalo Road) and NYS Route 31 (Lyell



Avenue) more accessible and hospitable. Mount Read Boulevard itself would become less of a barrier to eastbound and westbound pedestrian travel with new crossings where they are missing today. The following improvements would benefit pedestrian travel throughout the corridor:

- Single lane, highlighted crossings with refuge islands at the proposed Buffalo Road roundabout
- New or repaired sidewalks along Mount Read Boulevard between Buffalo Road and Lyell Avenue
- Highlighted crossings and enhanced crossing signal features at the Lyell Avenue intersection
- New accessible, signalized, highlighted pedestrian crossings at Emerson Street, Lexington Avenue, and Driving Park Avenue
- Reconnection of sidewalk linkages along the Outer Drive at the proposed Rochester & Southern Railroad crossing
- New or repaired sidewalks along the Outer Drives
- A new accessible, signalized, highlighted crossing at Joanne Drive
- New sidewalk along the east side of Mount Read Boulevard from Joanne Drive to Stone Road

4.2.2 Bicyclists

Under the vision plan, Mount Read Boulevard would become better integrated into the City of Rochester's growing network of bicycle friendly paths, streets, and roadways. Marked bicycle lanes would extend from the proposed Buffalo Road roundabout to Lyell Avenue. The possibility also remains open for the incorporation of marked bicycle lanes into the roadway's cross section from Lyell Avenue north to Driving Park Avenue. This would extend bicyclist connectivity to an existing marked bicycle facility on Driving Park Avenue. Bicyclists would also be able to use any remaining portions of the Outer Drives, although because they do not provide continuous connectivity, they would be most useful for localized travel. Even without the integration of marked bicycle lanes in this segment, experienced bicyclists would find the re-envisioned facility more conducive to travel given the incorporation of wide shoulders, simplified intersections, and bicycle friendly drainage features. Though not incorporated into the base plan at this time, the proposed reconfiguration north of NYS Route 104 (West Ridge Road) in the Town of Greece would not preclude the addition of marked bicycle lanes in the future, north of Joanne Drive.

4.2.3 Transit

In general, Rochester Genesee Transportation Authority (RGRTA) bus stops south of Lyell Avenue would not be impacted by the vision plan improvements. There is one existing bus stop in the southbound direction adjacent to School No. 43. If the on-street parking zone along the west side of Mount Read Boulevard were eliminated, buses would need to stop within the curb lane to maintain service. If a recessed parking area, separated from the southbound travel lane by the 5 foot wide dedicated bicycle lane were constructed, a portion of that lane could be dedicated as a bus stop.

RGRTA currently doesn't maintain any stops on Mount Read Boulevard north of Lyell Avenue, however the conceptual improvements would present new opportunities to add those accommodations where viable. Under the vision plan, conditions would be made more favorable for both pedestrian and bicyclist use. Discussions should be had with the RGRTA during future design stages in order to best incorporate transit friendly features in areas where both the transportation authority and transit users would realize the most benefit.



4.3 Land Use and Development

The Mount Read Boulevard corridor contains a noteworthy amount of underutilized property. As such, it has excellent potential to support continued growth as a commercial and industrial center for the City of Rochester. According to the New York State Department of Labor's Long Term Occupational Employment Projections 2010-2020, planning level forecasts for the greater Rochester region suggest that the area has experienced and will continue to experience an employment growth rate of 4% per year for the foreseeable future. Based upon that statistic, the entire Rochester Metropolitan Statistical Area (MSA) should see an increase of approximately 60,000 jobs by 2035. Monroe County typically accounts for approximately 80% of the Rochester MSA's growth and therefore should support approximately 48,000 of the anticipated jobs by 2035 (information drawn from the City of Rochester LYLAKS BOA Market Analysis). The Mount Read Boulevard corridor study area accounts for 13% of Monroe County's assessed value and less than 1% of its geographic area, therefore this suggests approximately 6,250 jobs within. For conservatism, this estimate was discounted by about 50%. The resulting forecast (i.e. "best guess estimate") is approximately 3,000 potential new jobs within the Mount Read Boulevard corridor by the year 2035.

The zone between Lexington Avenue and Ridgeway Avenue contains the highest concentration of underdeveloped parcels in the corridor and therefore offers the most significant potential for new development. A total of 12 possible redevelopment sites, in addition to the Eastman Business Park, were identified as illustrated in Exhibit 4.3(1) in Appendix F. Together these 13 locations could account for up to 160 acres of new development, around 2.25 million gross square feet of space, and just over 2,000 new jobs for the corridor. Assuming that the Eastman Business Park would account for 1 million gross square feet of manufacturing or warehouse development, the remaining 1.25 million gross square feet would be divided amongst the 12 remaining sites. A summary of a build out analysis, including assumptions made about geography, size, and type of use, is available in Exhibit 4.3(2) in Appendix F. Assumed uses include office space, research and development, manufacturing, warehousing, and retail.

4.4 Traffic Volumes and Operations

4.4.1 Traffic Volumes

The goal of the build conditions traffic analysis was to verify the ability of the vision plan to support continued growth and development along the Mount Read Boulevard corridor. If fully realized, the magnitude of new development described in Section 4.3 would generate a significant number of additional vehicular trips. Many of those trips would need to find their way onto the corridor. This would come in addition to the anticipated average annual background growth in traffic of 1.0%.

The Institute of Transportation Engineers' publication Trip Generation, 9th Edition, was used to estimate the volume of traffic that could be generated by each of the 12 potential development sites identified in Exhibit 4.3(1) at full build out. The next step was to determine the proportion of total projected trips (entering and exiting) from each site that would utilize Mount Read Boulevard. This was done based upon knowledge of the adjacent roadway network and planning judgment. Once the total number of new trips entering the Lexington Avenue, Driving Park Avenue, and Ridgeway Avenue intersections were estimated, that figure was compared to the projected no build traffic. A growth factor (ratio) was developed for each intersection comparing the magnitude of anticipated traffic under no build conditions to the forecast



volumes assuming full development of the 12 potential sites. Growth ratios were then extrapolated for the remaining intersections along the corridor.

It is important to note that the projected capacity of the intersection of Mount Read Boulevard and Driving Park Avenue would effectively cap the amount of development that can be realized at the 12 sites to about 75-80% of their maximum potential. Increasing the capacity of the proposed intersection (e.g. providing a grade separated interchange) or developing alternative connections to the neighboring NYS Route 390 corridor via Ridgeway Avenue or Lexington Avenue as part of redevelopment could unlock the remaining development potential, however evaluation of those strategies was beyond the scope of this study. Estimated growth factors for intersections along the Mount Read Boulevard corridor as a result of new development at the 12 potential sites, within the capacity of the corridor vision plan, are summarized in Exhibit 4.4.1(1).

Exhibit – 4.4.1(1) Traffic Growth Factors for Mount Read Boulevard Intersections with Development	
Intersection	Traffic Growth Factor
NYS Route 33 (Buffalo Road)	4%
Maple Street	4%
I-490 Westbound Ramps	6%
Jay Street	6%
NYS Route 31 (Lyell Avenue)	6%
Emerson Street	6%
Lexington Avenue	7%
Driving Park Avenue	8%
Ridgeway Avenue	8%
Joanne Drive	6%
Stone Road	6%

Daily Traffic Volumes

Average Annual Daily Traffic (AADT) volumes were extrapolated for the year 2035 based upon the background traffic and development forecasts along the corridor. Projected AADT values are summarized in Exhibit 4.4.1(2). As shown, the largest volumes would still be found between the I-490 Interchange and NYS Route 31 (Lyell Avenue). However, in conjunction with potential development, the relative change between the no build and build volumes would be highest between Lexington Avenue and Ridgeway Avenue. In general, the volumes would remain at a level that could be supported by two travel lanes in each direction with additional turn lanes as needed at intersections.

Exhibit – 4.4.1(2) Future No Build and Build Average Annual Daily Traffic Volumes (vehicles per day)			
From	To	Future No Build at ETC (2035)	Future Build at ETC (2035)
NYS Route 33 (Buffalo Road)	I-490 Interchange	18,700	19,000
I-490 Interchange	NYS Route 31 (Lyell Avenue)	24,900	26,100
NYS Route 31 (Lyell Avenue)	Ridgeway Avenue	20,600	22,700
Ridgeway Avenue	NYS Route 104 (West Ridge Road)	20,000	22,000
NYS Route 104 (West Ridge Road)	Stone Road	19,300	20,800



Intersection Turning Movement Volumes

Intersection turning movement counts were also forecasted based upon the background traffic and the anticipated impact of possible development. Projected 2035 weekday morning and evening turning movement volumes for the corridor are presented in Exhibit 4.4.1(3) of Appendix B. The same intersections examined under existing and no build conditions (Section 2.2.1) are shown for the projected build conditions.

4.4.2 Traffic Operations

Synchro, Version 7.0, by Trafficware, and SIDRA Intersection, Version 5.1, by Akcelik and Associates, were utilized to complete the traffic analysis of the vision plan. Detailed output from each piece of traffic software is part of the project record and can be made available by the City of Rochester upon request.

The analysis for the intersection of Mount Read Boulevard and NYS Route 33 (Buffalo Road) reflects the roundabout geometry and traffic control illustrated in the vision plan. The analyses for signalized intersections along the corridor reflect both geometric changes (where appropriate) from the vision plan and adjustments to signal phasing and timing. The signalized intersection analyses also reflect the inclusion of pedestrian intervals (e.g. walk, flashing don't walk, don't walk). No changes were anticipated at the Ridgeway Avenue intersections with the Outer Drives or Mount Read Boulevard at Stone Road. As with the existing and no build cases, future intersection conditions were again evaluated using overall (level of service) as a basis. The results of the analyses for intersections along the corridor are summarized in Exhibit 4.4.2.

Exhibit – 4.4.2 Overall Intersection Level of Service Summary Future No Build and Vision Plan (Build) Conditions in 2035				
Intersecting Street or Roadway	No-Build (2035) (LOS/Delay)		Vision Plan (2035) (LOS/Delay)	
	AM	PM	AM	PM
NYS Route 33 (Buffalo Road) ¹	B/18	C/27	A/8	A/8
Maple Street	A/4	B/12	A/5	A/8
I-490 Westbound Ramps	C/29	D/40	B/18	C/26
Jay Street	B/11	E/68	B/16	D/47
NYS Route 31 (Lyell Avenue)	D/43	E/80	D/36	D/45
Emerson Street	C/21	C/23	C/23	D/35
Lexington Avenue	E/77	D/43	D/36	C/27
Driving Park Avenue	C/20	B/17	C/30	C/29
Ridgeway Avenue at West Outer Drive	C/22	B/16	C/26	B/17
Ridgeway Avenue at East Outer Drive	B/17	B/13	C/25	B/14
West Outer Drive Access to West Inner Drive Near MCWA Facility ²	F/63	F/47	-	-
Joanne Drive ²	F/229	F>300	-	-
Joanne Drive / West Outer Drive Access ³	-	-	B/13	A/9
Stone Road	E/65	D/39	E/63	D/38

- Notes:
1. No-Build is signalized traffic circle, build condition is a roundabout.
 2. Unsignalized intersection. Results shown are for the stop controlled approach.
 3. Signalized intersection.



As shown in Exhibit 4.4.2., nearly every intersection is projected to operate at LOS D or better overall during each peak period. The intersection of Mount Read Boulevard and Stone Road would effectively operate the same as under projected no build conditions with LOS E overall during the morning peak hour.

At a slightly higher level of detail, some specific lane groups and movements are may still exhibit capacity issues as described below. In some cases, specific movements are projected to operate at LOS E. This is however, not unexpected for a large facility with multiple lanes, long cycle lengths (necessary to accommodate pedestrian phases), and significant volume. Similar conditions are found locally on NYS Route 104 (West Ridge Road) in the Town of Greece today.

The westbound left turn from the I-490 westbound off ramp to Mount Read Boulevard southbound is projected to operate at LOS E during both peak hours in 2035 as opposed to during the evening peak hour alone under no build conditions. The increase in delay would be on the order of 20 seconds per vehicle. However, in return the northbound left turn movement would improve from LOS F to LOS D during both peaks. This would accompany adjusted split times and signal coordination from Maple Street to NYS Route 31 (Lyell Avenue).

Although overall operations at the intersection of Mount Read Boulevard and Jay Street are anticipated to improve from LOS E to LOS D during the evening peak hour, it is important to note that poor conditions (LOS F) would persist on the westbound approach, as under the no build scenario, during both peaks. Exclusive eastbound and westbound left turn lanes (to allow for protected phases) could not be easily added to the intersection without impacting adjacent residential and commercial properties.

Furthermore, while the northbound through and right turn movements at the Jay Street intersection would be improved to LOS D during the evening peak hour, the permitted southbound left turn is projected to operate at LOS F. This is would affect just over 40 vehicles per evening peak. Levels of service could be improved if the signal were allowed to run on a cycle one half as long as the others along the corridor, however this would not allow for adequate pedestrian crossing intervals. Per the vision plan, improvements to facilitate vehicular travel should be balanced with pedestrian safety and mobility enhancements.

As noted in Section 4.1.3, there isn't sufficient space to expand the intersection of Mount Read Boulevard and NYS Route 31 (Lyell Avenue) beyond its existing footprint without significant impacts to adjacent properties. As a result, changes under the vision plan have been limited to minor adjustments to corner radii. No new lanes would be added. Controller replacement and adoption of flashing yellow arrow operation could provide flexibility to run "permitted/protected" or "protected only" operation at appropriate times of the day thus improving intersection operations. The overall level of service provided to motorists during the peak traffic periods would improve slightly as would the level of service for individual movements. However, without the ability to add significant new capacity, it is anticipated that the eastbound left turn and westbound through movement would operate at LOS E during the evening peak.

The simplified Emerson Street intersection would see the westbound through, northbound left, and southbound left operate at LOS E during both the morning and evening peak periods. Eastbound through movements, northbound left turns, and southbound left turns would experience LOS E during the morning peak at the Lexington Avenue intersection. During the evening peak, the eastbound left turn, northbound left turn, and southbound left turn would operate at LOS E. The cornerstone intersection of Mount Read Boulevard at Driving Park Avenue would also have some movements operate at LOS E. These include the



westbound left turn and northbound left turn during the morning peak and the eastbound left turn, northbound left turn, and southbound left turn during the evening peak. In all cases, a lengthy signal cycle and long pedestrian clearance intervals would be the primary contributors to the projected delays.

The southbound lane shared by through movements and left turns at the intersection of Mount Read Boulevard's western outer drive with Ridgeway Avenue would continue to operate at LOS E during the morning peak period. The westbound left turn lane is also projected to operate at LOS E during the same period. These results differ slightly from, but are consistent with, the no-build conditions given anticipated changes to traffic patterns.

As no changes are proposed at the Stone Road intersection under the vision plan for the Mount Read Boulevard Corridor, anticipated delays under no-build and build conditions would be similar. The westbound through and left turn lanes are projected to operate at LOS F during the morning peak hour. During the evening peak, the eastbound through, westbound through, and southbound left turn would also continue to operate at LOS E or F.

4.5 Structures

Improvements proposed under the corridor vision plan would not require existing structures to be widened, therefore it is assumed that bridge replacements would not be necessary as a result of the plan. Based on the condition rating information summarized in Section 2.1.8, the existing bridges are sound, but will require rehabilitation to continue to serve the traveling public. For the purposes of this study it is assumed that those efforts would be handled separately as part of a dedicated set of capital improvement projects. The correction of vertical clearance issues where Mount Read Boulevard passes over the Falls Road Branch shortline (owned and operated by CSXT), over the Kodak Park Railroad, and under the Kodak Park pedestrian bridge should also be reviewed on a case by case basis in the future as conditions on and around those structures are addressed.

As noted in Section 4.1.4, it is anticipated that repairs would be made to the retaining walls beneath the Rochester & Southern Railroad overpass as part of the vision plan.

4.6 Environmental Considerations

4.6.1 Potential Environmental Studies and Impacts

Along with the infrastructure, safety, operational, and development impacts of the vision plan, and as with any highway rehabilitation or reconstruction project, there is the potential for environmental concerns. Potential items of concern for a project or projects stemming from this study are listed below. More detailed study of these issues should take place during subsequent phases of planning and design, as necessary to satisfy the New York State Environmental Quality Review Act (SEQRA) and Federal National Environmental Policy Act (NEPA) processes. The extent of supplemental investigations that may be required to determine the impacts would be a function of the design and need for property acquisitions.

- Air Quality
- Noise
- Energy
- Visual Environment
- Cultural Resources



4.6.2 Interagency Coordination and Permitting

The following is a list of permits that could potentially be required for the project. The need for permits would be further refined during future phases of project planning and design.

- New York State Highway Work Permit
- Monroe County Highway Work Permit
- NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity



Section 5: Conclusion

The City of Rochester and its partners have studied the existing conditions along Mount Read Boulevard from the traffic circle at NYS Route 33 (Buffalo Road) within the City limits to Stone Road in the Town of Greece. A Project Advisory Committee, stakeholders, and the public were engaged in the process. As a result, concepts have been developed to help Mount Read Boulevard remain a primary manufacturing and distribution hub for the greater Rochester region. It would also become less of a barrier to pedestrians and bicyclists and more supportive of multi-modal travel. This balanced vision, developed with the consensus of project partners including the City of Rochester, New York State Department of Transportation (NYSDOT), Monroe County Department of Transportation (MCDOT), Town of Greece, and the Genesee Transportation Council (GTC), can act as a cornerstone for the effort to make Mount Read Boulevard a better place to live, work, and do business in the future.

5.1 Documented Deficiencies

Transportation deficiencies identified through scoping studies and public outreach activities include:

- **Condition** – Pavement surface and median conditions, particularly between NYS Route 33 (Buffalo Road) and NYS Route 31 (Lyell Avenue), are fair to poor with the exception of the recently reconstructed Interstate 490 interchange. Pavement surface conditions are also fair along the outer drives. Lighting, traffic signal systems, and guiderail along the corridor are beyond their useful service life.
- **Multimodal Accommodation** – There is a lack of accessible pedestrian accommodations, including crossings of Mount Read Boulevard at the NYS Route 33 (Buffalo Road), Maple Street, Emerson Street, Lexington Avenue, and Driving Park Avenue intersections.
- **Goods Movement** - Conditions inhibit truck mobility (turns) at the intersection of Mount Read Boulevard and NYS Route 31 (Lyell Avenue) as well as where the inner and outer drives are close together at intersections with Emerson Street, Lexington Avenue, and Driving Park Avenue.



- **Safety** - Driver confusion and uncertainty result from a complex combination of geometry and traffic control at the NYS Route 31 (Lyell Avenue), Emerson Street, Lexington Avenue, and Driving Park Avenue intersections involving both inner and outer drives. There are notable clusters of accidents at intersections along the corridor and between Jay Street and Lyell Avenue. The NYS Route 33 (Buffalo Road) traffic circle has been identified as confusing to drivers, lacking the traffic control and geometric features necessary to provide positive guidance.
- **Congestion** - Traffic congestion, as indicated by poor levels of service, occurs at one or more locations during peak periods.

5.2 Highlights of the Corridor Vision Plan

The corridor vision plan suggests a possible set of solutions to address identified safety, operational, infrastructure, goods movement, mobility, and multimodal deficiencies along the Mount Read Boulevard corridor. Highlights include:

- Conversion of the NYS Route 33 (Buffalo Road) traffic circle into a modern roundabout to address accidents, confusing traffic control, and improve pedestrian accommodation.
- Removal of the existing concrete median between Buffalo Road and I-490 and between I-490 and NYS Route 31 (Lyell Avenue). Two concepts remain for further consideration. Both would reduce Mount Read Boulevard to two through travel lanes in each direction, include a 5 ft wide bicycle travel in each direction, and fit primarily within the footprint of the existing facility. One concept would include a center two-way left turn lane for safer and more convenient access into adjacent properties. The second would trade that center turn lane for curb parking lanes that would accommodate on-street parking except where interrupted by driveways.
- Reconstruction of the curbing in the corners at Lyell Avenue to allow trucks to complete turns within their own lane. Pedestrian crossings would be highlighted. New traffic signal equipment would also be installed allowing greater flexibility to deal with changes in vehicular, bicyclist, and pedestrian flow that occur between peak and off-peak hours. Property would be needed in the corners. Future designers would need to work with adjacent property owners and businesses to address potential changes in access.
- Modification of the roadway from Lyell Avenue to Driving Park Avenue to remove troublesome Outer Drive connections at signalized intersections and enhance safety. Pedestrian, bicyclist, and transit accommodation would also be improved with new dedicated crossings and possibly, bicycle lanes. ***Particularly between Lexington Avenue and Driving Park Avenue, transportation improvements alone will not be able to fully address all safety, access, and mobility concerns in this section of the corridor. This segment would benefit from a coordinated land use development and access plan.***



- Modification of short on and off ramps found between Driving Park Avenue and the NYS Route 104 (West Ridge Road) interchange to improve safety. While there are different ways this could be accomplished, the common goal in each case would be to provide more room to maneuver safely without sacrificing accessibility.
- Changes to roadway character north of NYS Route 104 (West Ridge Road) that help signify entry into the Town of Greece. The median would be narrowed and sidewalks, landscaping, and lighting would be added to reinforce the change.

5.3 Anticipated Cost and Phasing

The corridor vision plan is likely to be implemented in stages over the next 20 years. The actual order of the stages could vary depending on the prioritization of need and funding availability. A planning level opinion of probable cost was developed for each phase of the plan. These estimates include a contingency for unknown or unforeseen work elements as well as foreseeable project costs. They do not cover environmental mitigation or remediation, access modifications to adjacent properties, or detailed utility relocations as significantly more detail would be necessary to accurately forecast those costs. The anticipated cost per construction stage is illustrated below. The total estimated construction cost is \$47.3 million dollars (M).

Exhibit – 5.3
Anticipated Cost and Phasing

	A. Buffalo Road Intersection (\$2.0 M)		D. Lyell Ave to Driving Park Avenue (\$22.9 M)
	B. Buffalo Road to Lyell Ave (\$7.3 M)		E. Driving Park Ave. to West Ridge Road (\$7.6 M)
	C. Lyell Ave Intersection (\$3.5 M)		F. West Ridge Road to Stone Road (\$4.0 M)

5.4 Next Steps

It is anticipated that this study will be formally accepted by the Project Advisory Committee and the City of Rochester by the fall of 2014. At this time, there are no projects programmed for the corridor beyond routine maintenance activities. It is likely that the City of Rochester will remain closely involved throughout any future scoping, design, and construction phases of any projects that may come as a result of this study in an advisory role. Any project or projects advanced through the Federal Aid process would require close consultation with the GTC. The NYSDOT, MCDOT, or City could assume a leadership role for one or more projects. Additional partners are likely to be brought on board as project development continues. Stakeholder and public input should continue to be solicited and the assessment of existing conditions updated when necessary.



A sample project schedule is outlined in Exhibit 5.4. As discussed in Section 5.3, it is anticipated that full realization of the corridor vision would take place across multiple projects and in multiple stages over time.

Exhibit – 5.4
Possible Future Timeline for Mount Read Boulevard Corridor Project(s)

2014	<i>Accept Corridor Vision Document</i>
2016	<i>Initiate Design Project(s)</i>
2020	<i>Scoping and Preliminary Design Activities</i>
2030	<i>Detailed Design Activities</i>
2035	<i>Construction of Project(s) Complete</i>

This study is a first step. The next step would be to set priorities and program a project or projects on one of a variety of capital expenditure programs possibly including the City of Rochester Capital Improvement Program, Monroe County Capital Improvement Program, and/or the Regional or Statewide Transportation Improvement Program. Possible sources of funding include the Federal Highway Administration’s (FHWA) Highway Safety Improvement Program, Surface Transportation Program, or National Highway Performance Program. Public/Private/Partnerships (PPP) could be another source of possible revenue as redevelopment continues to occur throughout the corridor. From there, the scoping, preliminary design, detailed design, and construction phases would typically follow. Alternate forms of project delivery such as Design Build might also be considered. This study provides the City of Rochester and its project partners with the information necessary to take continued steps toward the continued improvement and viability of the Mount Read Boulevard Corridor.