

GrandView Area Former Public Works Site Traffic Study

For:



**City of Edina
4801 W. 50th Street
Edina, MN 55024**

August 26, 2015

Prepared By:



**WSB & Associates, Inc.
701 Xenia Avenue South
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CERTIFICATION

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the State of Minnesota.



Charles T. Rickart, P.E.

Date: August 26, 2015

Reg. No. 26082

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INTRODUCTION / BACKGROUND

The GrandView District is located in the area west of Trunk Highway (TH) 100, south of Vernon Avenue and north of Eden Avenue. The former Public Works site is located within the GrandView District in the northwest corner of Eden Avenue and Arcadia Avenue east of the CP railroad right-of-way.

In 2010 the City Council adopted the GrandView District Small Area Guide Plan process. That process resulted in adoption of 7 Guiding Principles for the redevelopment of the GrandView District. In April of 2011 the process of developing a GrandView District Development Framework began. The objective in creating a Development Framework was to build upon the 7 Guiding Principles. As part of the Framework Plan process a work group was established that guided the development of the transportation sections of the Framework Plan.

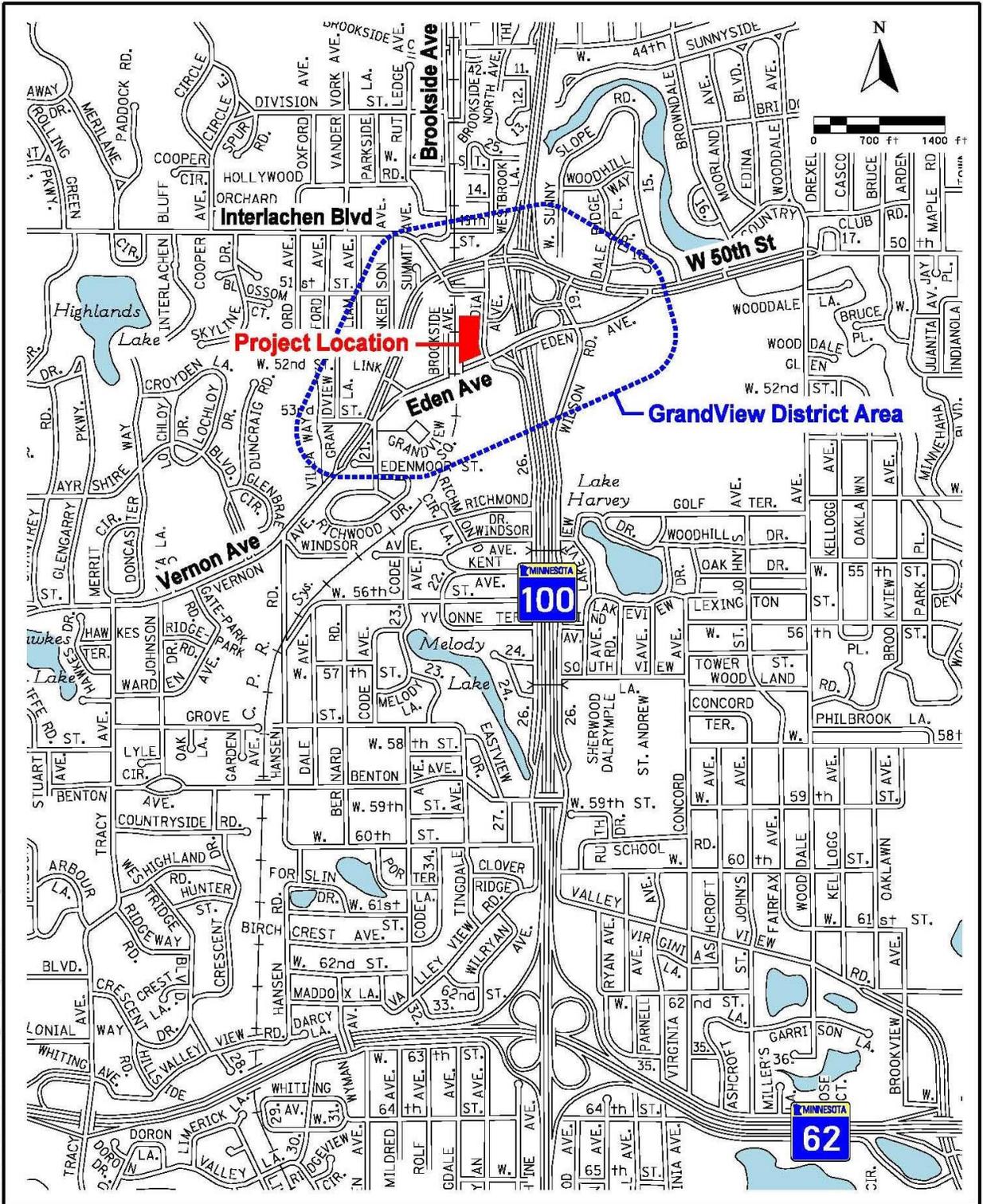
In fall 2014, the City hired Frauenshuh Inc., as a development partner to provide assistance and professional insight as the City explored ways to re-use the former Public Works site within the GrandView District for a combination of public and private uses. The result of this process was the development of numerous concepts and a variety of uses on the site. These efforts resulted in the preparation of several potential scenarios. Each scenario included a combination of public and private uses that shared parking facilities. The scenarios were based on the 7 Guiding Principles adopted in the Grandview Development Framework Plan and address many of the community suggestions. The location of the the GrandView District Area and the former Public Works site is shown on **Figure 1**.

Based on input from the public and City Council, Scenario #3 – North Civic with South Residential was selected as the preferred development alternative. **Figure 2** shows the proposed development concept plan for the former Public Works site. The primary components of this scenario include:

- 170 units - Residential
- 60,000 sf - Civic building
- 8,000 sf – Restaurant and retail uses
- 100 spaces – Park and Ride facility
- 643 spaces – Site parking

One of the identified next steps in the process was to prepare a traffic study to determine the impacts the development scenario would have on the area transportation system. The purpose of the study is to determine the potential impacts and needs the anticipated future development alternative will have on; the area traffic operations, lane geometry/traffic control, access locations, parking and pedestrian/bicycle accommodations.

The following sections of this report outline the findings of this study:



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GrandView Former Public Works Site
Traffic Study
 City of Edina, Minnesota

Figure 1

Project Location Map



Figure 2
Site Plan

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EXISTING CONDITIONS

A. Land Use

The existing land use in the GrandView District area consists primarily of commercial/industrial uses with residential uses north and west of the district. The vision for the area is for mixed uses including: commercial, office, multifamily and civic uses. The former public works site is currently vacant.

B. Roadway Characteristics

The key roadways within the GrandView District and their characteristics is shown below in **Table 1**. The Average Daily Traffic (ADT) volume shown in the table is the most recent available traffic volumes. The attached **Figure 3** shows the ADT volume with the year counted on the area roadways.

Table 1 - Roadway Characteristics

Roadway	Functional Classification	Roadway Jurisdiction	Roadway Design	Existing ADT Volume
TH 100	Principal Arterial	MnDOT	4-Lane Freeway	107,000 - 111,000
50 th Street	A Minor Arterial	Edina - MSA	4-Lane Divided	22,500 - 24,800
Vernon Avenue	A Minor Arterial	Hennepin County	4-Lane Divided	13,200- 18,600
Interlachen Blvd	Collector	Edina - MSA	2-Lane	9,400
Eden Avenue / Link Road	Collector	Edina - MSA	3- Lane / 2-Lane	4,200 - 8,500
Gus Young Lane	Collector	Edina	2-Lane	4200
Arcadia Avenue	Collector	Edina	2-Lane	1,100

The primary intersections that are impacted by the development of the former Public Works site include:

1. Eden Ave at Arcadia Ave/Normandale Rd
2. Arcadia Ave at TH 100 Frontage Road Ramp
3. Arcadia Ave at Gus Young Ln
4. Vernon Ave at Arcadia Ave
5. Vernon Ave at Interlachen Blvd
6. Vernon Ave at Gus Young Ln
7. Vernon Ave at Link Rd
8. Eden Ave at Link Rd

The existing traffic control and lane configurations at each of the study area intersection are as follows:

Eden Ave at Arcadia Ave/Normandale Rd- All Way Stop Control

EB Eden Ave approaching Arcadia Ave/Normandale Rd – one right/thru, one left
WB Eden Ave approaching Arcadia Ave/Normandale Rd – one right/thru, one left
SB Arcadia Ave approaching Eden Ave – one right/thru/left
NB Normandale Rd approaching Eden Ave – one right/thru/left

Arcadia Ave at TH 100 Frontage Road Ramp – Side Street Stop Control

WB Frontage Rd approaching Arcadia Ave – one right lane, one left
SB Arcadia Ave approaching Frontage Rd – one thru
NB Arcadia Ave approaching Frontage Rd – one thru

Arcadia Ave at Gus Young Ln – Side Street Stop Control

EB Gus Young Rd approaching Arcadia Ave – one right/thru/left
SB Arcadia Ave approaching Gus Young Rd – one right/thru/left
NB Arcadia Ave approaching Gus Young Rd – one right/thru/left

Vernon Ave at Arcadia Ave – Side Street Stop Control

EB Vernon Ave approaching Arcadia Ave – one right lane, two thru
WB Vernon Ave approaching Arcadia Ave – two thru
NB Arcadia Ave approaching Vernon Ave – one right

Vernon Ave at Interlachen Blvd – Traffic Signal Control

EB Vernon Ave approaching Interlachen Blvd – one right/thru, one thru, one left
WB Vernon Ave approaching Interlachen Blvd – one right/thru, one thru/left
NB Interlachen Blvd approaching Vernon Ave – one right/thru, one left
SB Interlachen Blvd approaching Vernon Ave - one right/thru, one left

Vernon Ave at Gus Young Ln – Side Street Stop Control

SB Vernon Ave approaching Gus Young Ln – one right/thru, one thru, one left lane
NB Vernon Ave approaching Gus Young Ln – one right, two thru, one left
EB Gus Young Ln approaching Vernon Ave – one right/thru, one left
WB Interlachen Blvd approaching Vernon Ave - one right/thru/left

Vernon Ave at Link Rd – Traffic Signal Control

SB Vernon Ave approaching Link Rd/Eden Ave – one right/thru, one thru, one left
NB Vernon Ave approaching Link Rd/Eden Ave – one right, two thru, one left
EB Link Rd/Eden Ave approaching Vernon Ave – one right/thru/left
WB Link Rd/Eden Ave approaching Vernon Ave - one right/thru, one left

Eden Ave at Link Rd – Side Street Stop Control

EB Link Rd approaching Eden Ave – one right/thru
WB Eden Ave approaching Link Rd – one thru, one left
NB Eden Ave approaching Link Rd/Eden Ave – one right, one left

The existing roadway geometrics including the intersection traffic control, is shown on **Figure 4**.

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Average Daily Traffic

XX,XXX	2013 Traffic Volumes
XX,XXX	2012 Traffic Volumes
XX,XXX	2011 Traffic Volumes
XX,XXX	2009 Traffic Volumes

Figure 3
Traffic Volumes

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City of Edina, Minnesota



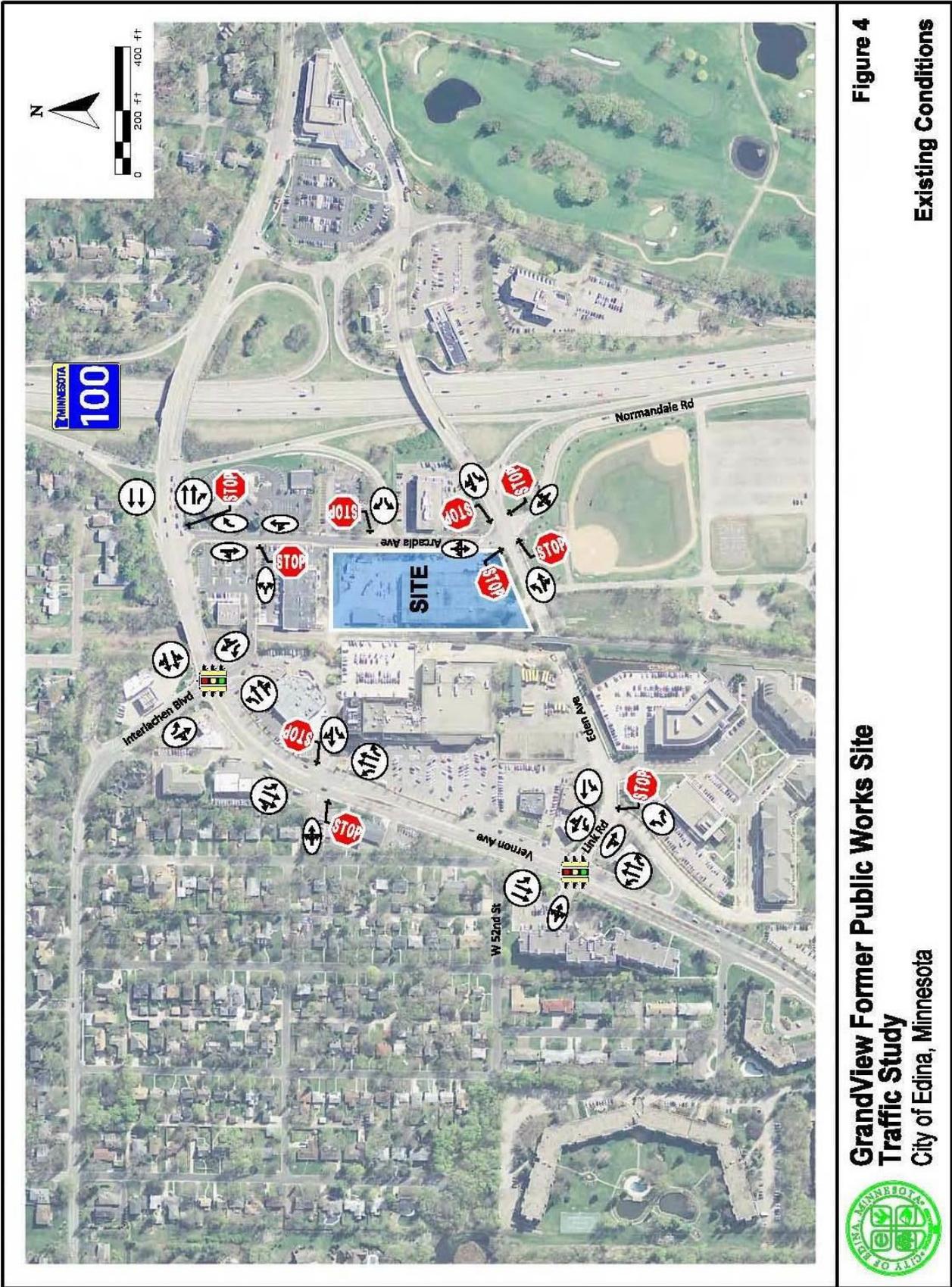


Figure 4

Existing Conditions

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Traffic Study**

City of Edina, Minnesota



TRAFFIC PROJECTIONS

In order to analyze the lane configuration and traffic control needs projected traffic volumes were determined for the area. Projected 2035 traffic volumes were determined based on proposed anticipated future development land use on the former Public Works site and the City's current Transportation Plan. The following sections outline the traffic generation, as well as the traffic distribution and projected traffic volumes.

A. *Traffic Generation*

Traffic growth in the vicinity of a proposed site will occur between existing conditions and any given future year due to other development within the region. This background growth must be accounted for and included in future year traffic forecasts. Reviewing the historical traffic counts in the area, traffic has stayed somewhat constant or dropped in the past few years. However, in order to account for some background growth in traffic the Hennepin County State Aid traffic growth projection factor of 1.1 over a 20 year period was used to project traffic to the 2035 analysis years.

In addition to the regional background traffic, future development related traffic was determined and included with the overall future traffic projections. The estimated trip generation from the proposed former Public Works site concept plan is shown below in **Table 2**. The trip generation used to estimate the proposed site traffic is also based on rates for other similar land uses as documented in the Institute of Transportation Engineers *Trip Generation Manual*, 9th Edition. The table shows the anticipated Daily, AM peak hour and PM peak hour trip generation for the anticipated development.

In addition, it was assumed that all the traffic from the site would be new and that no adjustments were made for dual purpose or pass-by/diverted trips. This also will provide for a worst case traffic condition.

Table 2 - Estimated Development Site Trip Generation

Use	Size	Daily	AM Peak	PM Peak
Residential	170 units	988	75	88
Community Center	60,000 sf	2,029	123	164
Retail	6,000 sf	266	6	22
Restaurant	8,000 sf	254	22	20
Park and Ride ⁽¹⁾	100 spaces	200	60	60
Total New Trips		3,737	286	355

Source: Institute of Transportation Engineers Trip Generation Manual, 9th Edition

(1) - Estimated based on the number of parking spaces

B. Traffic Distribution

Area generated trips were distributed to the adjacent roadway system based on several factors including:

- Previous traffic and transportation studies in the area.
- Anticipated origins and destinations for specific land use (i.e. location of commercial uses in relationship to residential).
- Existing travel patterns.
- City's current Transportation Plan model.

Based on these parameters the following general traffic distribution was used to distribute the projected traffic volumes from the anticipated uses:

- 35% to/from the north on TH 100
- 10% to/from north on Interlachen Blvd
- 30% to/from south on TH 100
- 15% to/from south on Vernon Ave
- 10% to / from east on Eden Ave/Vernon Ave/50th Street

C. Projected Traffic Volumes

Traffic forecasts were prepared for the year 2035 conditions the twenty year design year which represents the full development of the area. The traffic forecasts were prepared by adding the projected annual background traffic growth and anticipated former Public Works site traffic to the existing traffic counts. **Figure 5** shows the projected 2035 ADT, AM and PM peak hour traffic volumes for each impacted roadway in the study area.

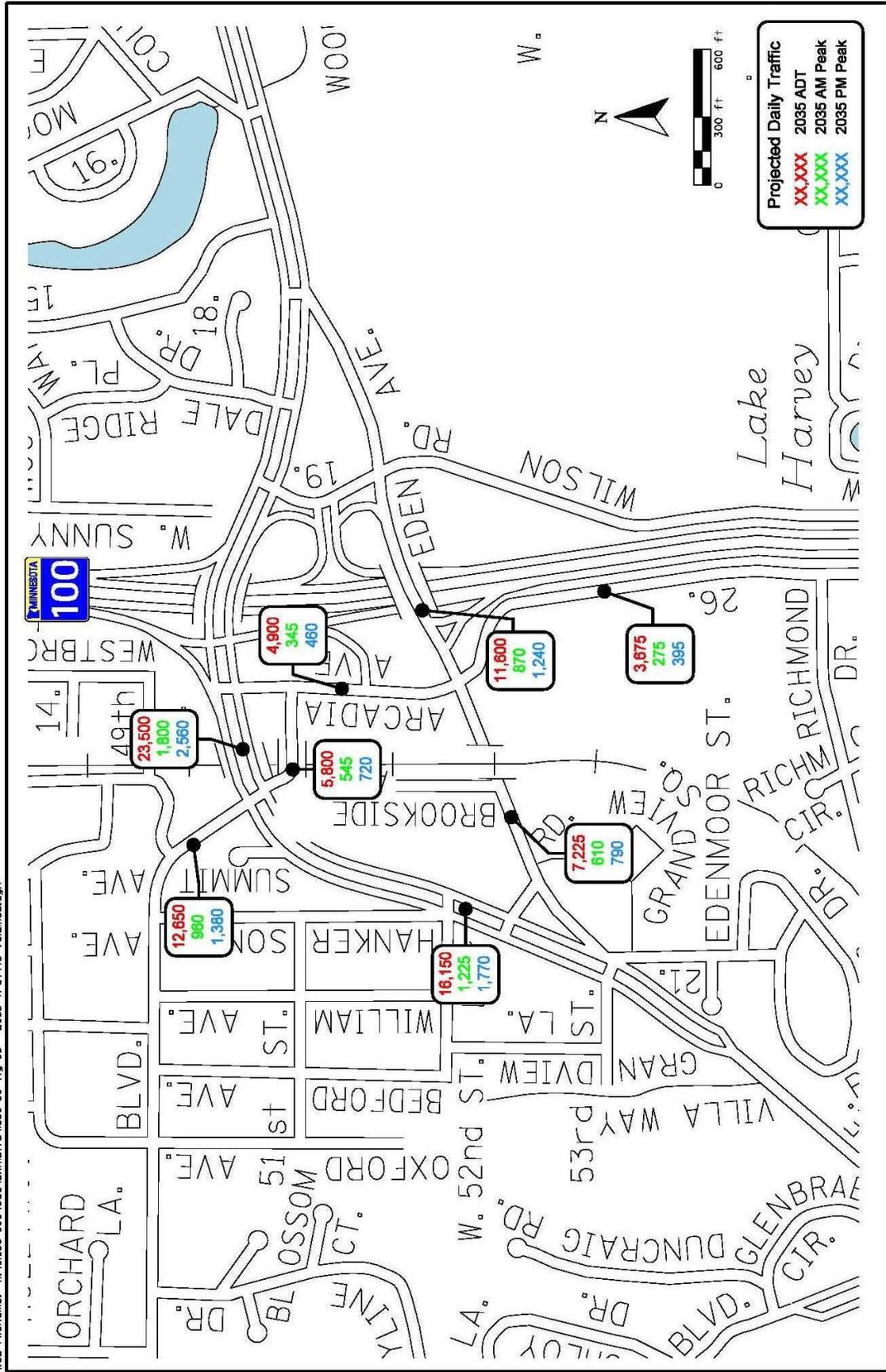


Figure 5
Projected 2035 Traffic Volumes

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TRAFFIC IMPACT ANALYSIS

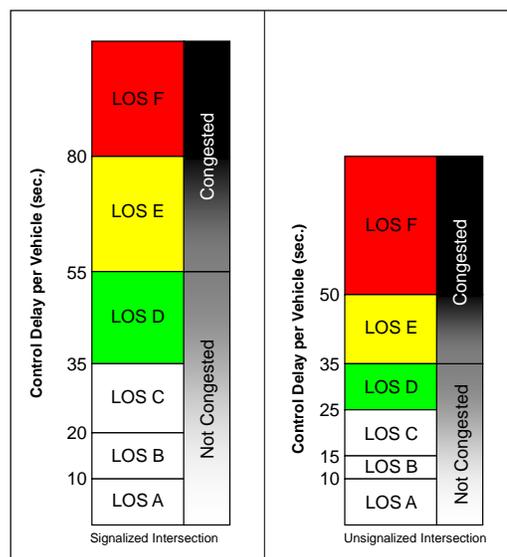
Existing and/or forecasted traffic operations were evaluated for the intersections and proposed site access locations for the existing and future 2035 conditions. This section describes the methodology used to assess the operations and provides a summary of traffic operations for each scenario.

A. Methodology

The intersections in the corridor were evaluated during the AM and PM peak hours using Synchro/SimTraffic micro simulation software. The results are derived from established methodologies documented in the Highway Capacity Manual (HCM) 2010. The software was used to evaluate the characteristics of the roadway network including lane geometrics, turning movement volumes, traffic control, and signal timing. In addition, the signal timing parameters for future year conditions were optimized using Synchro. This information was then transferred to SimTraffic, the traffic simulation model, to estimate average peak hour vehicle delays and queues.

One of the primary measures of effectiveness used to evaluate intersection traffic operations, as defined in the HCM, is Level of Service (LOS) – a qualitative letter grade, A – F, based on seconds of vehicle delay due to a traffic control device at an intersection. By definition, LOS A conditions represent high quality operations (i.e., motorists experience very little delay or interference) and LOS F conditions represent very poor operations (i.e., extreme delay or severe congestion). **Figure 6** depicts a graphical interpretation of delay times that define level of service. The delay thresholds are lower for un-signalized intersections than signalized intersections due to the public’s perception of acceptable delays for different traffic controls as indicated in the HCM. In accordance with the Minnesota Department of Transportation (MnDOT) guidelines, this analysis used the LOS D/E boundary as an indicator of acceptable traffic operations.

Figure 6: Level of Service Ranges for Signalized and Un-signalized Intersections



SOURCE: Level of Service thresholds from the Highway Capacity Manual, 2000.

Existing Level of Service Summary

Table 3 shown below summarizes the existing LOS at the primary intersections in the study area based on the current lane geometry, traffic control and existing traffic conditions. The analysis results show that all intersection are operating at an overall LOS C or better during both the weekday AM and PM peak hours with all movements operating at LOS D or better.

Table 3: Existing Conditions Level of Service Summary

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Overall Delay (sec/veh)	LOS	Overall Delay (sec/veh)
Eden Ave at Arcadia Ave/Normandale Rd	A (B)	4	A (C)	8
Arcadia Ave at TH 100 Frontage Road Ramp	A (A)	3	A (B)	5
Arcadia Ave at Gus Young Ln	A (B)	6	A (C)	10
Vernon Ave at Arcadia Ave	A (A)	1	A (A)	2
Vernon Ave at Interlachen Blvd	B (C)	20	C (D)	28
Vernon Ave at Gus Young Ln	A (C)	6	B (D)	12
Vernon Ave at Link Rd	B (C)	16	B (D)	20
Eden Ave at Link Rd	A (B)	2	A (C)	6

A (A) – Overall LOS (Worst Movement LOS)

Forecasted Traffic Operations

A capacity and LOS analysis was completed for the study area intersections for the 2035 conditions which represent the 20 year design timeframe assumed to be full development of the area.

Access to the proposed former Public Works site development was assumed to be from two driveways on Arcadia Ave, one for the residential development and one for the Community Center development, and; two driveways on Eden Avenue for the residential development. In addition it was assumed that a street connection from Arcadia Ave to Vernon Ave (Woonerf) would be provided.

The analysis was conducted for the projected no-build conditions with the existing roadway configurations and traffic control and assuming no connection from Arcadia Ave to Vernon Ave. The results of the no-build analysis are discussed below and shown in **Table 4**.

Table 4: Projected 2035 No-Build

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Overall Delay (sec/veh)	LOS	Overall Delay (sec/veh)
Eden Ave at Arcadia Ave/Normandale Rd	B (C)	12	C (D)	22
Arcadia Ave at south Site Access	A (C)	8	A (D)	10
Arcadia Ave at TH 100 Frontage Road Ramp / north Site Access	A (C)	8	B (E)	12
Arcadia Ave at Woonerf	NA	NA	NA	NA
Arcadia Ave at Gus Young Ln	C (D)	24	D (F)	30
Vernon Ave at Arcadia Ave	A (B)	4	A (B)	8
Vernon Ave at Interlachen Blvd	C (E)	32	E (F)	56
Vernon Ave at Gus Young Ln	B (F)	18	D (F)	34
Vernon Ave at Link Rd	C (E)	30	D (E)	40
Eden Ave at Link Rd	B (C)	12	B (D)	14
Eden Ave at west Site Access	A (B)	4	A (C)	8
Eden Ave at east Site Access	A (C)	8	B (D)	12

A (A) – Overall LOS (Worst Movement LOS)

The results of the projected 2035 no-build analysis shows that several intersection will be operating or close to operating at unsatisfactory levels of service. On Arcadia Avenue the majority of the left turn movements to or from intersection or access driveways are at LOS E or F. The intersections on Vernon Avenue will also have movements at LOS E or F. The decrease in level of service is due primarily to the regional background growth in traffic anticipated on the primary roadway and the increase in traffic due to the development of the former Public Works site.

In order to mitigate these deficient intersections and movements the following roadway improvements were assumed:

1. Woonerf Rd – addition of an east/west street from Arcadia Ave to Vernon Ave on the north side of the proposed former Public Works site.
2. Arcadia Avenue – addition of a center left turn lane (three lane section) from Eden Avenue to Gus Young Ln.
3. Arcadia Ave at Eden Ave – traffic control change to a signal or roundabout.
4. Vernon Ave at Interlachen Blvd – addition of a westbound left turn lane and traffic signal timing and phasing improvements (flashing yellow arrow).
5. Vernon Ave at Link Rd – traffic signal timing and phasing improvements (flashing yellow arrow).

Figure 7 show the proposed recommended improvements. The 2035 traffic volumes were then analyzed with these improvements. **Table 5** shows the results with the improvements in place.

Table 5: Projected 2035 Build

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Overall Delay (sec/veh)	LOS	Overall Delay (sec/veh)
Eden Ave at Arcadia Ave/Normandale Rd	A (C)	10	B (C)	16
Arcadia Ave at south Site Access	A (B)	6	A (B)	8
Arcadia Ave at TH 100 Frontage Road Ramp / north Site Access	A (B)	6	A (C)	10
Arcadia Ave at Woonerf	A (B)	8	A (C)	10
Arcadia Ave at Gus Young Ln	A (C)	10	B (C)	14
Vernon Ave at Arcadia Ave	A (B)	4	A (B)	8
Vernon Ave at Interlachen Blvd	C (D)	28	D (D)	40
Vernon Ave at Gus Young Ln	B (C)	14	C (D)	28
Vernon Ave at Link Rd	C (D)	26	C (D)	30
Eden Ave at Link Rd	B (C)	12	B (D)	14
Eden Ave at west Site Access	A (B)	4	A (C)	8
Eden Ave at east Site Access	A (C)	8	B (D)	12

A (A) – Overall LOS (Worst Movement LOS)

The results of the 2035 build analysis shows that with the proposed improvements all intersections would operate at LOS C or better and all movements would operate at LOS D or better.

PARKING DEMAND ANALYSIS

The purpose of this analysis is to determine the anticipated parking demand for the anticipated development of the former Public Works site. The parking demand for the site was analyzed based on proposed uses on the site. The parking generation rates used to estimate the parking demand was based on surveys of the parking generation for other similar land uses as documented in the Institute of Transportation Engineers *Parking Generation Manual*, 4th Edition.

Table 6 below shows a summary of each potential uses, the estimated parking generation rate, what the anticipated peak parking demand would be for a typical weekday and when the peak parking demand is anticipated. This would represent the worst case condition for the parking on the site assuming the proposed uses.

Table 6 – Site Parking Demand per ITE

Use	Size	Rate	Weekday Parking Required	Peak Period
Residential	170 units	1.38/unit	235	11:00 pm – 6:00 am
Community Center	60,000 sf	3.2/1000sf	192	6:00 pm – 8:00 pm
Retail	6,000 sf	4.1/1000sf	25	11:00 am – 8:00 pm
Restaurant	2,000 sf	10.6/1000sf	22	11:00 am – 2:00 pm, 6:00 pm – 8:00 pm
Park and Ride	100 spaces	NA	100	NA
Total Parking Demand			574	

Source: Institute of Transportation Engineers Parking Generation Manual, 4th Edition

The current City Code would require a total of 521 parking spaces for the proposed development. The proposed site plan provides an estimated 760 spaces. **Table 7** shows the estimated parking required based on City Code.

Table 7 – Parking Required per City Code

Use	Size	Rate	Parking Required	Parking Provided
Residential	170 units	1/unit	170	253
Community Center	60,000 sf	1/200sf	300	407
Retail	6,000 sf	8/1 st 1000sf + 6/additional 1000sf	38	
Restaurant	2,000 sf (30 seats / 3 employees)	1/3seats + 1/employee on shift	13	
Park and Ride	NA	NA	NA	100
Total Parking			521	760

Reviewing the ITE Parking Generation summary and City Code requirements there will be sufficient spaces available for the anticipated site parking demand.

The GrandView District plan recommended the following parking improvements be considered:

- Use of the current city parking ramp (located behind Jerry’s) to accommodate future park and ride patrons and general parking district supply; increase the capacity of this structure in the future if economically possible/practical.
- The public works site should be considered as a location for a Metro Transit park and ride facility as a way to provide parking to weekly commuters and to provide parking for a community/civic building, public green, residences and other uses. In addition, the top level (deck) of this structure is intended to serve as the GrandView Green, the major public realm amenity in the district.

- Additional parking (structure) is proposed to the south and contiguous to Jerry’s grocery store to provide better service access to the loading area and provide additional parking supply.

The existing City Parking ramp has 276 spaces available. Based on the last study completed by City staff there the utilization of the ramp is approximately 70% to 80% during peak utilization. Metro Transit is highly motivated to locate a “community” scale park and ride facility that would accommodate no more than 100 to 150 cars. At least two sites have the potential to serve this need: the existing City ramp and a potential structure on the public works site. The excess parking in both the existing City ramp and on the former Public Works site would provide enough capacity for this park and ride facility.

PEDESTRIAN NETWORK ANALYSIS

The City of Edina is committed to providing a comprehensive and coordinated pedestrian network that provides transportation as well as recreational value. In determining the appropriate facilities for the City, several “Best Practices” can be considered.

Traditional Bike Lanes: On-road bike lanes provide designated space exclusively for cyclists and are distinctly separate from auto-traffic lanes. On-road bike lanes go in one direction, consistent with vehicle traffic and are striped and clearly visible for drivers. Striped bicycle lanes have been shown to have a channeling effect for both drivers and cyclists, and makes cyclists feel more confident that drivers will not drift into their path travel.

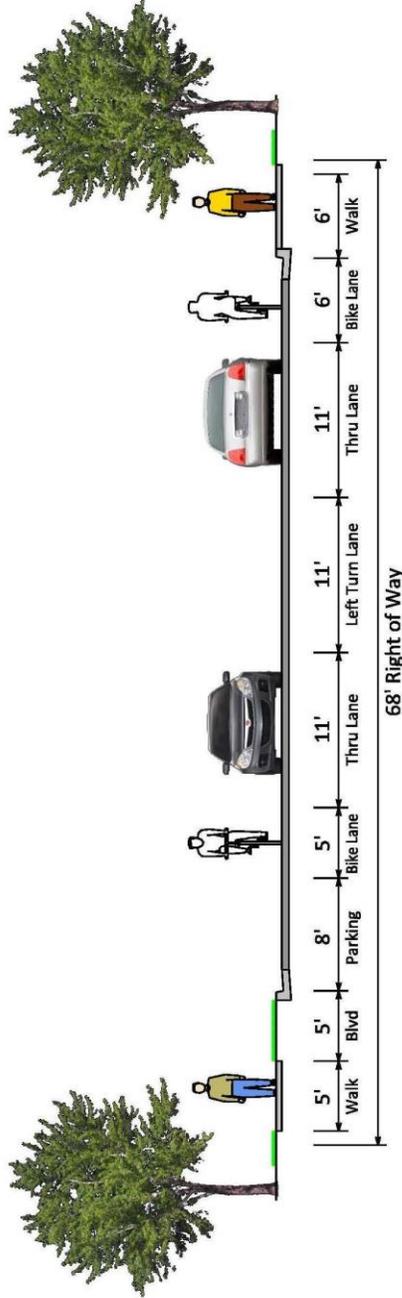
Off-Road Trails/Sidewalks: Off-road trails can be a much more comfortable option than an on-street bike lane as users are separated from traffic. They provide a great opportunity for children and less experienced cyclists to use non-motorized transportation and feel safe. In many cases, off-road trails are used by multiple types of users such as cyclists, joggers, people on rollerblades, and people walking their dog. For routes that receive significant use, separate trails/sidewalks for different users may be necessary. When separate facilities are provided, proper signage should indicate which paths are to be used by pedestrians and which should be used by cyclists. Using different paving materials or providing a median between the separate facilities can further reinforce designation for different users.

Currently within the GrandView District several sidewalks are provided. The City’s Comprehensive plan identifies a business sidewalk connection along Arcadia Ave to Gus Young Ln to Interlachen Blvd. The Comprehensive Plan also recommends a primary bike route on Eden Ave from east of TH 100 to Vernon Ave and on Arcadia Ave from Eden Ave to Gus Young Ln to Interlachen Blvd. A secondary bike route is also recommended on Vernon Ave from Link Rd to east of TH 100. The Grandview District Plan also identified a potential bike facility using the CP Rail right-of-way or adjacent land could connect Eden Ave, at grade, to Brookside, thereby providing an off -road option to move through the District.

In conjunction with the development of the former Public Works site adjacent to Arcadia Ave, additional right of way should be provided to accommodate an on-road primary bike facility and an off-road pedestrian sidewalk. **Figure 8** shows the proposed typical section of Arcadia Ave with the recommended improvements.



Existing Section - Arcadia Avenue



Proposed Section - Arcadia Avenue



**GrandView Former Public Works Site
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Figure 8

Typical Sections

CONCLUSIONS / RECOMMENDATIONS

Based on the analysis documented in this study, WSB has concluded the following:

- The former Public Works site is anticipated to generate an additional 3,500 daily trips, 226 AM peak hour trips and 128 PM peak hour trips at full development (2035).
- The results of the existing traffic operations analysis indicates that all existing intersections adjacent to the former Public Works site are operating at an overall LOS C or better during both the weekday AM and PM peak hours with all movements operating at LOS D or better.
- The traffic operation analysis for the 2035 No-Build conditions, assuming existing traffic control and roadway configurations shows that several intersections will be operating or close to operating at unsatisfactory levels of service. On Arcadia Avenue the majority of the left turn movements to or from intersection or access driveways are at LOS E or F. The intersections on Vernon Avenue will also have movements at LOS E or F.
- In order to accommodate future traffic conditions area roadway improvements will be required. The proposed improvements are shown on **Figure 7** and include:
 1. Woonerf Rd – addition of an east/west street from Arcadia Ave to Vernon Ave on the north side of the proposed former Public Works site.
 2. Arcadia Avenue – addition of a center left turn lane (three lane section) from Eden Avenue to Gus Young Ln.
 3. Arcadia Ave at Eden Ave – traffic control change to a signal or roundabout.
 4. Vernon Ave at Interlachen Blvd – addition of a westbound left turn lane and traffic signal timing and phasing improvements (flashing yellow arrow).
 5. Vernon Ave at Link Rd – traffic signal timing and phasing improvements (flashing yellow arrow).
- The results of the 2035 build analysis shows that with the proposed improvements all intersections would operate at LOS C or better and all movements would operate at LOS D or better.
- The parking demand analysis determined that the current City Code would require a total of 521 parking spaces for the proposed development. Based on ITE parking generation analysis, the site would require 474 parking spaces. The proposed site plan provides an estimated 760 spaces.
- There would be an excess of 200 parking stall on the former Public Works site and an estimated 50 excess parking stalls in the City parking ramp. These stalls would provide enough capacity for a community park and ride facility.

- In conjunction with the development of the former Public Works site adjacent to Arcadia Ave, additional right of way should be provided to accommodate an on-road primary bike facility and an off-road pedestrian sidewalk. *Figure 8* shows the proposed typical section of Arcadia Ave with the recommended improvements.
- Any improvement proposed on or adjacent to the former Public Works site (Arcadia Ave) should be designed to accommodate future pedestrian facilities. Pedestrian facilities in this location provide access to and from adjacent commercial and residential areas as outlined in the City's Comprehensive Plan. *Figure 8* shows a typical section with the proposed pedestrian facilities.