

 **Metropolitan Council**

August 3, 2005

Tom Link
City of Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, MN 55077

RE: City of Inver Grove Heights – Northwest Expansion Area Draft Alternative Urban Areawide Review (DAUAR) – Incomplete for Review
Metropolitan Council District 15 (Daniel Wolter, 651-882-7814)
Reviews File No. 19529-1

Dear Mr. Link:

Council staff has reviewed the Draft AUAR for the 3,140-acre Northwest Expansion Area in the City of Inver Grove Heights which proposes 2,017 acres of various densities of residential development, 388 acres of office, industrial and commercial development, 724 acres of natural, open space and golf development, and 11 acres of public/institutional development. The area is bounded by Interstate 494 on the north, Babcock Trail on the east, an area just south of Trunk Highway 55 on the south, and the City boundary with Eagan on the west. Council staff finds the DAUAR incomplete with respect to regional transportation concerns. The remaining sections are complete and accurate with respect to regional concerns and raised no major issues of consistency with Council policies.

Transportation (Ann Braden, 651-602-1705)

The Northwest Expansion Area is a 3,140-acre mixed use development that will generate over 91,000 trips per day with more than 7,600 trips in the p.m. peak hour. Portions of two metropolitan highways are located within the study area-- I-494 and TH 55. The transportation analysis for the Northwest Expansion Area DAUAR included proposed interchanges at CSAH 63 and I-494 and at CSAH 63 and TH 55 and assumed TH 3, a north-south "A" minor arterial, would have six lanes. Since these improvements are not included as expansion projects in the regional Transportation Policy Plan or Mn/DOT's Transportation System Plan, the traffic analysis should be redone without these improvements in order to determine the impact of traffic on the local and regional roadway systems.

Assumptions regarding background growth in traffic should be explained more fully. The traffic analysis concludes that no significant increase in congestion levels on I-494 and TH 55 are anticipated due to the additional vehicle trips added to the regional roadway system (p. 88). It then goes on to say that the proposed development would increase traffic on I-494 west of CR 63 by approximately 15,500 vehicles, a significant amount. Because of the large scale of this development and its long build-out period, a better methodology for assessing impacts on the metropolitan highways may be achieved by using the regional traffic forecasting model with adjustments for other large scale developments in the vicinity of the project.

The breakout of land uses within the study area shows a total of 7,090 housing units. According to the U.S. census count, in 2000 Inver Grove Heights had 11,257 households; adding the households in the study area to the census figures results in 18,347 households. This is 347 households more than the Metropolitan Council's 2030 forecast. The number of housing units added to City between 2000 and

today is not included nor is the increase in the number of households elsewhere in the City over the next 25 years. Because the regional travel forecast model is based on the Council's forecast, this discrepancy in numbers could affect traffic forecasts on area roads.

The traffic mitigation section identifies a number of highways that will need expansion. To protect land adjacent to these highways, the City may show these right of ways through official mapping. The Metropolitan Council's Right of Way Acquisition Loan Fund (RALF) program may then be available to the City to acquire some of these officially-mapped parcels.

Aviation (Chauncey Case, 651-602-1724)

Background:

The closest regional aviation system facilities to the City of Inver Grove Heights are the MSP International Airport and the South Saint Paul Municipal Airport. The Northwest Expansion Area is not within the influence area of either airport. The expansion area is within the noise buffer area for MSP; it is also within the region's general airspace that is to be protected from potential obstructions to air navigation. No permitted seaplane operating areas are within the expansion area.

The expansion area is mostly undeveloped and zoned for agricultural use; proposed use is primarily various density residential development with a mix of some commercial industrial uses. Virtually all of the expansion area is overflowed by aircraft arriving/departing the main parallel runways at MSP; increases in air traffic activity are forecasted and this area will continue to receive aircraft overflights. The TPP includes the 2007 aircraft noise policy area for MSP that includes a DNL 60 noise contour and a one-mile noise buffer zone. The noise contours have been reduced in geographic scope since 1996 and are no longer within the City. A portion of the expansion area is within the one-mile noise buffer zone - implementation of noise controls in this area is optional and at the discretion of the affected community. The City of Inver Grove Heights has not indicated to the Council that it is implementing the one-mile buffer area as part of its comprehensive plan or local controls.

Comments:

The 1999 City Comprehensive Plan indicated that the Northwest Expansion Area expansion would likely be accomplished in multi-year increments, moving generally east to west. Given the timeline for final development of the westernmost parcels it was established that improvements in aircraft noise control at the source [primarily engine noise] could potentially decrease the noise "footprint" to the point that these parcels would no longer be affected by significant levels of aircraft noise impact. There has been a geographical reduction in the footprint, but due to more than increased use of quieter stage III engines. It also involves movement of some traffic off the parallel runways to the new north/south runway, and a change in fleet mix to include more regional jets. This may turn out to be a "temporary" reduction in the noise footprint when examined within the context of forecast levels beyond 2010. The City may want to consider implementing some measures within the one-mile buffer zone as part of a preventive mitigation program. The City is strongly encouraged to include notification to new homeowners and to ensure use of best practices in construction to help reduce exterior to interior noise intrusion. The AUAR does not contain any discussion or references to aircraft noise. AUAR item number 9 or 27 should indicate these conditions as concerns aircraft noise impacts.

Parks and Open Space (Michael McDonough, 651-602-1054)

The Metropolitan Council adopted the 2030 Regional Park System Plan on June 29, 2005. The plan includes a proposed north-south regional trail in the central part of Dakota County. In Inver Grove Heights, the trail may be located on the west side of the City. It would connect the North Urban

Regional Trail on the north with Lebanon Hills Regional Park on the south. The City is encouraged to work with the Dakota County parks staff to identify a trail corridor and to incorporate it into the final AUAR if the schedule permits. The AUAR process identified greenways within the AUAR area. The identified greenways in the DAUAR are consistent with the Dakota County Soil and Water Conservation District's greenways planning project for this part of the county.

The park and recreation section of the City's comprehensive plan calls for a number of new parks in the AUAR area. The plan also calls for development of local trail as the area develops.

Environment (Jim Larsen 651-602-1159)

Item 8 – Permits and Approvals Required

Following local action by the City's Council, any Comprehensive Plan Amendment(s) within the area will need to be submitted to the Council for review and comment prior to proceeding with recommended changes in land use.

Item 17 – Water Quality – Surface Water Runoff

Council staff compliments the City on selecting a development plan for this area that will strive to preserve the majority of its existing natural resources, and utilize low-impact development (LID) techniques to manage storm water generated by the proposed development. The document however, only incorporates discussion of one specific LID method in dealing with storm water runoff. Figure 17.4 depicts a 'Typical Rain Garden Design', designed to handle the runoff generated by up to two single-family residential lots. As the document states, many other specifically designed LID methods will be necessary for proposed development within the area having higher degrees of imperviousness – to accommodate runoff from roadways, and from medium/high density residential and office/industrial developments. The document also states that the City has proposed the preparation of a companion document/storm water design manual to ensure that adequate on-site infiltration is provided and site-specific characteristics should be assessed to determine the most appropriate type and location of the best management practices. The Council agrees that a manual will be a necessary document that must be drafted and adopted prior to undertaking any development in this area as proposed. Each and every development site within the area, regardless of size, will need to have a site-specific runoff plan designed and approved prior to construction, due to the extent of sub-watersheds without overflow outlets within the development area. The extent of impervious surface planned by any of the potential development scenarios in this document would result in frequent and extensive flooding if not followed consistently.

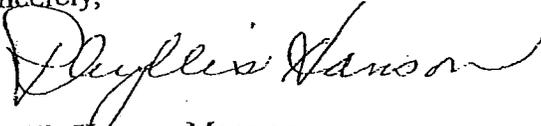
The Council recommends that the City perform a comprehensive hydrologic and hydraulic storm water bounce modeling study of the entire portion of the northeast development area located within the Gun Club Lake watershed prior to beginning any development in the area, instead of doing such analysis on a site-by-site basis. A comprehensive study will insure consistency, eliminate controversy over methodology, eliminate delay during future development, and provide the City with more accurate information with which to carry out accurate future land use planning and budgeting.

The City is located within two watersheds - the Lower Mississippi River and Gun Club Lake watersheds. The City's local Surface Water Management Plan was due to be completed by May 2003. The May 2003 due date allowed for a two-year period of time for the City to prepare an update to their local plan, following the completion and adoption of second-generation watershed plans by the two watershed management organizations. The City will need to submit a specific LID design manual for the Northwest development area, as well as their updated Local Surface Water Management Plan for

the City either prior to, or in conjunction with, the comprehensive plan amendment for this area to be considered complete for review. Development within this area as proposed, without having adopted these documents, could be determined to be a potential metropolitan system impact.

While the Council will take no formal action on the Northwest Extension Area Draft AUAR, the City will need to address the transportation issues that precipitated the incomplete designation for this review and respond to comments contained herein and incorporate necessary revisions into the Final AUAR and mitigation plan. Please contact Chris Moates, principal reviewer, at 651-602-1750 or chris.moates@metc.state.mn.us should you have other questions about this review.

Sincerely,



Phyllis Hanson, Manager
Local Planning Assistance

cc: Daniel Wolter, Metropolitan Council District 15
Chris Moates, Principal Reviewer
Cheryl Olson, Referrals Coordinator
Lynn Moratzka, Dakota County Office of Planning

V:\reviews\communities\Inver Grove Heights\Letters\Inver Grove Heights DAUAR NW Extension 19529-1



Minnesota Department of Transportation

Metropolitan Division
Waters Edge
1500 West County Road B2
Roseville, MN 55113

December 7, 2004

Gary D. Johnson, P.E.
Director of Public Works
City of Inver Grove Heights City Offices
8150 Barbara Avenue
Inver Grove Heights, MN 55077

RE: Inver Grove Heights Northwest Expansion Area AUAR

Dear Gary:

Thank you for allowing Mn/DOT the opportunity to be involved and provide comments in the discussion of the Northwest Expansion Area AUAR, in Inver Grove Heights on September 30, 2004. We are writing as a follow-up to that meeting to reiterate our concerns about the assumptions going in to the traffic analysis that will be a part of this AUAR.

As we noted at the meeting, we are concerned about the assumption that a new interchange will be allowed on I-494 in the County Road 63 area of Inver Grove Heights, Eagan and Sun Fish Lake. We have since conferred with the FHWA on this matter and both agencies in agreement that: 1) the Federal Highway Administration (FHWA) will require an Interstate Access Request, for which extensive freeway operational modeling be needed, and 2) the City should consider and reveal more alternatives beyond the I-494 to County Road 63 (Argentia Trail) alternative as you review the transportation needs that serve this area of development. For example, it is quite possible that other local roadway connections/improvements may be required such that no net increase of access on I-494 would be necessary. Although adding ramps to the existing overpass at I-494/CR 63 may meet general freeway access spacing guidelines, resulting freeway operations may necessitate additional and extensive facility operational enhancements.

We also have similar traffic operations and physical feasibility concerns about the proposal to add another interchange to Highway 55 in close proximity to Highway 3. We understand that operational modeling will not be done as a part of your traffic study, so we encourage you to assume only one connection or the other to Highway 55 as the baseline for the traffic analysis.

We look forward to working collectively with you and the local governmental units impacted by the development proposed in this AUAR area to more extensively study the traffic operation alternatives. MnDOT is prepared for continued involvement in this study. Once again, thank you for including us in your early discussions. If you'd like to discuss this further, please contact me at (651) 582-1409.

Sincerely,

A handwritten signature in cursive script that reads "Lisa Freese".

Lisa J. Freese, AICP
South Metro Area Manager

Twin City Travel Demand Forecasts Prepared for Mn/DOT Metro: Model and Parameters for Adjustments to Model Inputs

Revised March 24, 2003

Model:

- Twin Cities Regional Model
- Consistent with Current Regional Transportation Policy Plan Adopted by the Metropolitan Council
 - Demographics
 - Metropolitan Highway System
 - Metropolitan Transit System

Adjustments:*

- Socio-economic file
 - Within Regional Control Totals
- Highway Network
 - Consistent with Fiscally Constrained County/Local Plans and/or Capital Improvement Programs...County/Local 5 year Capital Improvement Programs (CIPs) are generally considered to be fiscally constrained...County/Local 5 year project lists (beyond their CIPs) are also generally considered to be fiscally constrained in that the projects listed in them should be affordable by the County/Local agency within the 20 year planning/forecasting horizons typically used for Mn/DOT projects.
 - No Build of Proposed Project
- Transit Network
 - No Build of Proposed Project or TSM alternative consistent with FTA guidelines
- External Station Data File
 - Only if Based on New Observed Data

Inputs Not to be Adjusted:*

- Intrazonal Times
- Transit Skim Weighting Penalties
- Fare Factors
- Coefficient Files
- Special Generator File
- Parking Cost Files
- Trip Distribution F and K Factors
- Mode Choice Calibration Factors
- Mode Choice Coefficients and Constants
- Highway Assignment Delay Function Data

- Trip Diurnal Factoring
- Highway Assignment
 - Damping Factor
 - EPS
 - Peak Conversion Factor
- Terminal Times
- Auto Ownership Model
- Seed Matrix

*It is recognized there may be unique circumstances where even those model parameters listed as "not to be changed" should be changed. If this circumstance should arise; it is recommended that the modeler contact Mn/DOT Metro and Metropolitan Council Forecasting and discuss the circumstances and proposed model changes prior to implementing them. In any event, the rationale for making all adjustments to the model and the selection of the adjustment(s) used should be documented and included with the forecast.

Twin City Travel Demand Forecasts Prepared for Mn/DOT Metro: Model Output Checks for Reasonableness and Post Processing Adjustments

Revised October 21, 2003

Checks for Reasonableness:*

- **Peak Hour Percentage of Daily Traffic...** The peak hour percentages of daily traffic produced by the model for the forecast year should be compared to existing/observed peak hour percentages within the project limits and on other routes nearby with the same functional classification. The general expectation is that the peak hour percentage of daily traffic in an approximately 20 years future forecast year should be lower than those currently observed on the existing route and comparable routes near the project. For projects on routes ten miles or more from the Minneapolis Central Business District (CBD); the general expectation is that the peak hour percentage of daily traffic in an approximately 20 years future forecast year should be similar to the peak hour percentages of daily traffic currently observed on comparable routes a few miles closer to the CBD.
- **Directional Split of Peak Hour Traffic...** The directional splits of peak hour traffic forecasts produced by the model for the forecast year should be compared to existing/observed directional splits within the project limits and on other routes nearby with the same functional classification. The general expectation is that directional splits in an approximately 20 years future forecast year should be more balanced than those currently observed on the existing route and comparable routes near the project.
- **Capacity of Road Segments Beyond Limits of Project...** Peak hour traffic forecast volumes assigned to road segments beyond the limits of the project which feed traffic to the project should be compared to the respective capacities of those road segments. The general expectation is that the capacities of feeder roadways should not be exceeded.
- **Daily Traffic Growth Factors....** For projects on existing routes, the daily traffic forecasts from the model should be compared with the daily forecasts yielded by factoring using the last 20 years record of daily volumes. The general expectation is that the model should yield forecast values which are lower than those based on an extrapolation of the last 20 years of increases in daily traffic.

Post Processing Adjustments:

- Traffic forecast volumes should be rounded as follows:
20,000 plus.....to closest 1000
1,000 to 20,000.....to closest 100
less than 1000.....to closest 10

- All products depicting the forecast numbers (maps, tables, layouts, etc.) should contain a very visible caution that the forecast numbers depicted have a likely confidence range of plus or minus 15 percent.
- Peak hour forecast values should be adjusted to reflect the results of the reasonableness checks identified above.
- Traffic smoothing and corridor diversion adjustments should be accomplished using the procedures described in Chapter 9 of NCHRP Report 365, "Travel Estimation Techniques for Urban Planning".

*The checks for reasonableness section identifies a number of general expectations. It is recognized that for some road segments the generally expected outcome listed may not be appropriate. In these situations the rationale for varying from the outcome generally expected should be documented.

**Twin City Travel Demand Forecasts Prepared for
Mn/DOT Metro:
Documentation of Forecast**

July 29, 2003

Each travel demand forecast prepared for Mn/DOT should be accompanied by a short (under ten pages) report which documents the methodologies used to develop the forecast. Documentation for multiple forecasts on the same segment of highway (multiple forecast years) can/should be combined in one report. Five copies of the forecast and the documentation report should be provided to the Mn/DOT project manager for each forecast. The Mn/DOT project manager will be responsible for timely distribution of the forecasts and documentation reports to the District Forecasting Engineer and other appropriate individuals within the Department. Draft forecasts presented for review/comment should be accompanied by draft documentation reports.

Each documentation report should address every bulleted item in the previous sections of these guidelines ("Model and Parameters for Adjustments to Model Inputs" and "Model Output Checks for Reasonableness and Post Processing Adjustments"). In addition, forecasts used for benefit/cost analyses should include the rationale for selecting the forecast area for which benefits are calculated.

U.S. Department of Transportation
Federal Highway Administration
Minnesota Division
Phone (651) 291-6100



Galtier Plaza
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101-2904
Fax (651) 291-6000

July 26, 2005

The Honorable Carol Molnau
Lt. Governor
Department of Transportation
MS 100, Transportation Building
St. Paul, Minnesota 55155

Re: Proposed Interchange at I-494 and County State-Aid Highway 63 in the Draft
Inver Grove Heights Northwest Expansion Area Alternative Urban Areawide Review

Dear Ms. Molnau:

We understand the Northwest Expansion Area draft Alternative Urban Areawide Review (AUAR) proposes a new interchange on I-494 at County State-Aid Highway (CSAH) 63. The purpose of this letter is to provide early comments on the need for the proposed new interchange and content of the draft AUAR.

As outlined in the December 2004 letter from Mn/DOT to Gary Johnson, Director of Public Works for the City of Inver Grove Heights (IGH), Mn/DOT and the Federal Highway Administration (FHWA) agreed that an Interstate Access Request (IAR) would be required for the proposed I-494/CSAH 63 interchange and that the IGH should consider more alternatives beyond the I-494/CSAH 63 interchange that would not add additional access points to the Interstate system. After reviewing the Northwest Expansion area draft AUAR released in June 2005, we still have concerns about the proposed traffic network.

First, the traffic analysis revolves around the assumption of an interchange at I-494 and CSAH 63. A future IAR would need to demonstrate the existing interchanges or local roads cannot accommodate the design year traffic and that all reasonable design options have been adequately assessed. A viable local roadway system, designed upon the assumption of an interchange, sets a de facto need for the interchange. We do not support an interchange requested under this scenario. A traffic analysis must explore the design options of using the TH 149 and TH 3 interchanges, with and without improvements, combined with an improved local road network to handle the projected 2025 traffic.



Second, a proposed Interstate access point must not have a significant adverse impact on the safety and operation of the Interstate facility. Although "no significant increase to the congestion levels..." on I-494 is expected by IGH, the document clearly states that an analysis would only be performed once the request for interchange construction is submitted. Every access point added to the Interstate system has some effect upon safety and operation of the facility. The draft AUAR should include the data used to arrive at the conclusion of "no significant increase in congestion levels."

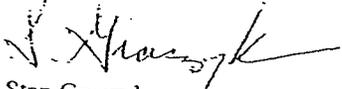
Third, the proposed I-494/CSAH 63 Interstate access is not put into the context of area development. The draft AUAR should discuss the anticipated schedule in which these new or improved roadways need to be delivered.

Fourth, any future request for new or revised access to the Interstate should be in the context of a long-term plan derived from an Interstate network study. In this case, this proposed interchange should be put into the context of a long-term plan for I-494 from I-35E to Minnesota Highway 110. The IGH should refer to Mn/DOT Technical Memorandum Number 01-03-1S-03 for further information.

In conclusion, we do not believe the IGH Northwest Area draft AUAR has provided adequate analysis to support the need for a new Interstate access point at I-494 and CSAH 63. We continue to support exploring modification of existing Interstate access without adding additional access points to I-494, encouraging cooperation to determine a vision for I-494, and an effort to develop a local road network with improvements to existing interchanges to support the projected 2025 traffic volumes. We look forward to working with you on these issues.

Please contact Philip Forst at (651) 291-6110 or philforst@fhwa.dot.gov if you have any questions.

Sincerely yours,



Stan Graczyk
Project Development Team Leader

SG/pjf/bjv

cc: 2 Mn/DOT
1 Mn/DOT - Lisa Freese (electronically)
1 Mn/DOT - Nancy Daubenberger (electronically)
1 Forst/PDR- Dakota County
1 RF
Document #21909

www.fhwa.dot.gov/mndiv/



FEDERAL HIGHWAY ADMIN.
(FHA)
12.19.05

Buss, Sherri A

From: Ficek, Bryant J
Sent: Tuesday, December 27, 2005 10:00 AM
To: Buss, Sherri A
Subject: FW: Comments on Inver Grove Heights AUAR Supplemental Analysis

Bryant Ficek
Bonestroo Rosene Anderlik & Associates, Inc.
651-604-4886

From: Forst, Phil [mailto:Phil.Forst@fhwa.dot.gov]
Sent: Monday, December 19, 2005 4:24 PM
To: Ficek, Bryant J
Cc: Nancy Daubenberger
Subject: Comments on Inver Grove Heights AUAR Supplemental Analysis

Bryant:

My comments are as follows:

Assume Land Use and Volume Projections, page 2

"One new roadway is an east-west collector connection from the City of Eagan to CSAH 73 that has been proposed by the City of Inver Grove Heights." It does not appear from Figure 1, Figure 2, Figure 3, Table 1, and Table 2 that the benefits of building this east-west route are taken into account but Inver Grove Height's (IGH's) response to comments on page 14 states:

"The Supplemental Analysis determined the existing roadway system is inadequate to handle the expected traffic increases from the study area, even with the additional local roadways such as an additional east-west collector roadway located at approximately 65th Street..."

If no assumptions about size, geometry, or intersection layouts are assumed, how did the study come to the conclusion that the proposed east-west roadway provides no benefit to the movement of local traffic and no affect on the need for an interchange?

If the intent is to maximize the local road system, the design assumptions used in the analysis and the benefits (or lack thereof) of this east-west collector should be included in the supplemental analysis.

Furthermore, are there no additional collector routes planned to maximize the ability of the local system to handle future traffic?

Mitigation, page 4

"The mitigation recommendations below are options based upon the build-out of existing roads without additional access to I-494." Consider adding something to the effect of "...or improvements to existing interchanges at TH 149 and TH 3."

CSAH 26 and TH 3, page 7

the comments (1) below about evaluating CFI, etc.

Response to Comments, page 11

"...a six-lane freeway facility could be expected to handle approximately 110,000 vehicles per day." A six-lane facility *may* do this, but it may not be with an acceptable LOS. Without a model including the specific interchange layout and future traffic projections surrounding your area, that is a determination best answered by the multi-jurisdictional study. Clearly state the assumptions (including assumed necessary traffic conditions on I-494) behind the 110,000 number.

General Comments

(1) The document mentions intersection layouts and their ability to handle certain turning movements. The Supplemental Analysis recommends anywhere 4-6 lanes on a number of facilities to handle the 20+ year traffic. Considering the LOS ratings in Figure 3 and the number of lanes recommended to handle future traffic, one must acknowledge the benefits that relatively new intersection layouts not yet seen in Minnesota *may* bring to the study area. Continuous flow intersections (CFI) and center-turning overpasses are just a few geometric options that may effectively bring a higher LOS and better safety than the "traditional" layouts used for purposes of the Supplemental Analysis. These are among a few of the options that must be evaluated to maximize the safety and capacity of local system under future traffic.

Please feel free to contact me if you have any questions.

Tip Forst
a Engineer

Federal Highway Administration - Minnesota Division
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St. Paul, MN 55101
Ph. (651) 291-6110
FAX: (651) 291-6000



Minnesota Department of Transportation

Metropolitan District

Waters Edge
1500 West County Road B-2
Roseville MN 55113-3174

August 3, 2005

Tom Link
Inver Grove Heights Community Development Director
8150 Barbara Avenue
Inver Grove Heights, MN 55077

**SUBJECT: Inver Grove Heights Northwest Expansion Area Draft AUAR
Mn/DOT Review # AUAR05-003
Area encompassing I-494, TH 55 and TH 3
Inver Grove Heights, Dakota County
Control Sections 1908, 1909, 1985, 1928**

Dear Mr. Link;

Thank you for the opportunity to review the Inver Grove Heights Northwest Expansion Draft Alternative Urban Areawide Review (AUAR). Mn/DOT's staff has reviewed the document and has the following comments:

Traffic Analysis:

The analysis is not consistent with Mn/DOT's adopted forecast guidelines. It needs to include a forecast that reflects a constrained network as a basis for evaluation. This analysis is not adequate to conclude how development will impact traffic volumes and operations in the area, most notably on I-494, TH 55, and TH52. However, the following comments are based on what was submitted:

- The traffic analysis presented used the ITE Trip Generation manual assumptions for reducing the number of trips (pass-by, intercepted, etc.) and to arrive at the growth for the background traffic. This approach is only appropriate for a much smaller scale of development that will be completed within the near term and will not have significant impact on the regional transportation system. Also, the traffic analysis noted adjustments to the forecasts for trip reductions and background growth, but the assumptions were not quantified in the documentation. On what basis were traffic patterns and background growth established? Is there a background growth rate applied/assumed or is it just existing volumes and development traffic?
- This is a very large development area that will take a number of years to be completed. As such, the traffic analysis needs should reflect this development scale by using the regional transportation planning modeling procedure as the tool for this analysis the analysis. The regional model accounts for all of the other forecasted land use and transportation system changes expected to occur during the period being analyzed. The results of the regional model then should be used to do the detailed traffic analysis for this area. Note that the regional model analysis needs to reflect

any changes in land use – expected or proposed and these changes should adjust the development assumptions up or down in the area so that they are all consistent with the metro council regional development totals. It should also be adjusted to reflect additional large scale developments in the vicinity of this proposed development (including any in adjacent municipalities). Significant amounts of traffic will use either I-494, TH 55, TH 52, and TH 149. There needs to be some analysis of impact to these facilities.

- A more systematic approach to analyzing the traffic impacts of the development on the local and regional roadway system must be completed. The analysis provided only assumes a final configuration of the access to the regional system, most notably a proposed new interchange at CR63 and I-494. There was no analysis of the current interchanges to support the need for this new interchange. The analysis should, at a minimum, include the following scenarios:

- 1) Analyze the development with the currently planned local roadway system improvements
- 2) Analyze with improvements to the local roadway system (including additional roadways to access current interchanges with the regional roadway system)
- 3) Analyze with improvements to the current interchanges with the regional roadway system, if improvements are required.
- 4) Analyze with the new interchange at CR63 and I-494, if it is found to be required. The analysis should include the operations on the regional roadway system to insure that the additional interchange is feasible given the short distance to existing interchanges (merge, diverge and weaving).

It is not acceptable to state that the details of the interchange will be determined when it is designed as there may be constraints that would either make the interchange extremely expensive or limit one or more movements. Also, this interchange could require significant changes to the adjacent interchanges. Therefore, this needs to be more fully analyzed at this point given that its configuration would have significant impact on the configuration of the local roadway system design.

- Page 79 of the AUAR has italicized instructions in the last sentence. “If the project is within the Twin Cities Metropolitan Area, discuss its impact on the regional transportation system.”
 - 1) Other nearby Major Arterials TH-52 and TH 149 are not covered nor is there a negative impact declaration.
 - 2) The traffic report provides a limited traffic assessment and minimal detail on I-494 and TH-55, though new interchanges are proposed. More detail and traffic data should be included about traffic on these roadways.

- 3) The consideration of intersection spacing appears to be an issue on TH-55 at CR 63. This needs to be commented on.
- 4) The mitigation plan needs more detail on the proposed interchanges. The mitigation discussed on page 93 leaves us uncertain as to whether or not an interchange is being proposed at CR 63 and TH-55.
- 5) Please note that we have reviewed and concur with the FHWA comments (attached letter).
- 6) The County has completed an Environmental Assessment on the CSAH 28 extension. The preferred alternative includes a half interchange at TH55 and CSAH28. While the County has indicated to Mn/DOT it would prefer full interchange, the department has asked the County to do further operational analysis of the proposed configuration. Mn/DOT has serious reservations about whether TH3 at TH55 can remain as a full interchange if there is a full interchange at CSAH 28 and TH55.

Permits:

- Under Section 8 "Required Permits and Approvals" (page 14); the Federal Highway Administration (FHWA) is missing from the list of agencies, for new freeway interchange approvals. The interchange project proposer will need to submit an Interstate Access Request (IAR) that needs coordinated through Mn/DOT with final approval by the FHWA. Please see the attached letter from the FHWA, dated July 26, 2005, that notes the IAR should demonstrate:
 - Why the existing interchanges or local roads can not accommodate the design year traffic, and that all reasonable design options have been adequately assessed
 - That the proposed Interstate access point must not have a significant adverse impact on the safety and operation of the Interstate facility (an operational analysis would be needed to support this)
 - That the Interstate access would not be put into the context of area development
 - That any request for new or revised access to the Interstate should be in the context of a long-term plan derived from an Interstate network study.

This is a reiteration of what was outlined in the letter to the City from Mn/DOT dated December 7, 2004 (see attached letter). It was also stated in that letter that Mn/DOT has similar traffic operations and feasibility concerns about the proposal to add another interchange to Highway 55 in close proximity to Highway 3, also, any traffic analysis that didn't include operational modeling should assume only one connection to Hwy 55 in that area.

- **Municipal Consent** A new proposed interchange or capacity expansion on a state trunk highway or interstate requires that the Commissioner of Transportation obtain consent of the municipality that the project is within per Minnesota State Statutes 161.163-167. The Commissioner of Transportation is required to obtain municipal consent from all municipalities within the project area, so depending on the project limits of the proposed I-494 and CR 63 interchange, it may need to be presented to Eagan, Sunfish Lake and

Mendota Heights for review and approval upon completion of the development of a staff approved layout.

- Any use of or work within Mn/DOT right of way or affecting Mn/DOT right of way (ie., drainage) requires a permit. Permit forms are available from Mn/DOT's utility website at www.dot.state.mn.us/tecsup/utility. Please direct any questions regarding permit requirements to Buck Craig (651-582-1447) of Mn/DOT's Metro Permits Section. Please update the Permits needed portion on pages 14 of the AUAR to also include possible drainage permits from Mn/DOT.

Mn/DOT's Transportation System Plan (TSP):

- A few of the proposed improvements have been identified as needs on the trunk highway system, but no funding is available for in Mn/DOT fiscally constrained 20 year plan (through 2030) to improve any state trunk highway facilities within the project area. It should be noted that Mn/DOT's needs analysis was based on the regional model. In comparing the project growth from the regional model, it appears residential growth is similar; but that employment growth presented in the AUAR is double (approximately 4000 more employees) than is in the area in the regional model.

The city and county are strongly encouraged to adequately build their local collector and arterial networks to help support the growth. Local street connectivity is highly encouraged to provide local alternatives rather than forcing traffic to use the regional system for local trips. The AUAR does not provide enough detail to assess whether the local system is adequate to provide alternate routes to support the county and state arterial roadways.

- Where opportunity exists, the city should require individual developments within the subject area to install necessary improvements on the state trunk highway system as a condition of development approvals (e.g. intersection geometric improvements, sidewalks and trails, signals and capacity needs triggered by the development).

Preservation Right of Way:

- As the area develops adjacent to TH 3, TH 55 and I-494, additional right-of-way needs to be preserved for the expansion projects identified in the traffic mitigation section. The city should work with Mn/DOT to develop a footprint for those improvements identified in the traffic mitigation plan and then take appropriate steps to insure the preservation of the needed right-of-way. The City should implement some or all of the following techniques: right of way dedication, setbacks, platting of outlots. Mn/DOT strongly encourages that the city consider adopting an official map of the proposed highway expansion right-of-way needs area to further protect the needed right-of-way and to be eligible for the Metropolitan Council's Right of Way Acquisition Loan Fund (RALF) program for advance purchases of right-of-way where dedication or other zoning tools may not be applicable.

The city should also take into consideration the stormwater facilities needs of the proposed highway expansion projects in the mitigation plan and work with adjacent

developments to reserve ponding and treatment capacity for these future improvements.

Access Management Policies for TH 3 and TH 55:

- In 2002, Mn/Dot approved its Highway Access Category System and Spacing Guidelines as the Department's policy for managing access and signal spacing on the State's Trunk Highways. Each highway in the state has been assigned to an Access Management Category based on its functional classification, strategic importance to the statewide system, and the character of the surrounding land use. The policy is intended to promote the safety and mobility of the traveling public while accommodating the access needs of the surrounding area.
- Included below are some of the policy guideline highlights for your use in reviewing proposed developments adjacent to TH 3 and TH 55:
 - TH 3 through Inver Grove Heights (if south of TH 494) has been designated a Category 5B roadway: a Minor Arterial Highway in an Urban/Urbanizing Area. For Category 5B roadways, primary, full movement public street intersections should be spaced ¼ mile intervals. Signal spacing is limited to ¼ mile minimum.
 - TH 55 through Inver Grove Heights has been designated a Category 3B roadway: a High-Priority Regional Corridor in an Urban/Urbanizing Area. For Category 3B roadways, primary, full movement public street intersections should be spaced at 1/2 mile intervals. Secondary public street entrances may be spaced at 1/4 mile intervals between primary intersections. These secondary public street entrances are restricted to right-in/right-out only movements. Signal spacing is limited to ½ mile minimum.
 - Access to property along the corridor should be provided from the local public street network and not via direct private driveways onto TH 3 and TH 55.
 - All proposed accesses should conform to these approved guidelines; however, each proposed access location is also subject to final location placement review in order to check for other safety factors such as sight distance, reaction distance, etc. These guidelines are necessary to ensure the safety of the traveling public. A more detailed explanation of our access management guidelines can be found at <http://www.oim.dot.state.mn.us/access/>

Surface Water Runoff:

- The proposed development will need to maintain existing drainage rates towards Mn/DOT R/W (Right-of-Way), (I.e., the rate at which storm water is discharged from the site must not increase). The applicant will need to submit plans as they develop. If drainage is being sent towards Mn/DOT right-of-way, a drainage permit will be required. The applicant will need to also submit hydraulic computations for 10 and

100 year storms at pre and post development stages. All maps and plans used to calculate drainage must also be submitted. Drainage area maps should have flow arrows to indicate direction of overland and conveyed flows.

It is laudable that the City of Inver Grove Heights proposes to make extensive use of infiltration of runoff for the development of this area. However, as demonstrated by some of the problems that have occurred with sustained high water levels in land-locked basins within the city, the variability of seasonal weather, soils, and maintenance may not allow an enhanced infiltration approach alone to provide acceptable control. Extensive use of infiltration alone for development of a large urban area may detrimentally influence the performance of existing land-locked basins and may impede the ability to provide reliable drainage systems needed for future transportation improvements. Rather than relying on infiltration and other alternate BMPs alone, it is recommended that the city supplement these initiatives with a system of gravity or pumped outlets for terminal land-locked ponds in the area to provide redundancy and a practical means to deal with problems that may arise and to facilitate future transportation improvements. Please note that when exploring infiltration initiatives, more scientific data such as actual soil percolation tests may be required to test the actual infiltration rates of particular locations. You may want to keep this in mind as soil boring tests are conducted. Please direct questions regarding these issues to Bruce Irish, of Mn/DOT's Water Resources Section, at 651-634-2154.

Noise Walls:

- Residential uses located adjacent to highways often result in complaints about traffic noise. Traffic noise from this highway could exceed noise standards established by the Minnesota Pollution Control Agency (MPCA), the U.S. Department of Housing and Urban Development, and the U.S. Department of Transportation. Minnesota Rule 7030.0030 states that municipalities are responsible for taking all reasonable measures to prevent land use activities listed in the MPCA's Noise Area Classification (NAC) where the establishment of the land uses would result in violations of established noise standards.

Mn/DOT policy regarding development adjacent to existing highways prohibits the expenditure of highway funds for noise mitigation measures in such areas. The project proposer should assess the noise situation and take the action deemed necessary to minimize the impact of any highway noise. If you have any questions regarding Mn/DOT's noise policy please contact Peter Wasko in our Design section at (651) 582-1293.

Joint Efforts / Cost Participation:

- Mn/DOT has adopted a Statewide cost participation policy. As the city develops a financing plan for these proposed mitigations needs it would be advisable to consult it. It can be found at http://www.dot.state.mn.us/stateaid/res_downloads.html

The city has proposed two interchanges. The cost participation for these facilities is as follows:

- **Interstates (I-494)**

New interchanges and grade separations on existing freeways are frequently requested by local units of government to enhance local access and transportation systems. The addition of interchanges can be detrimental to freeway operations because they introduce traffic conflicts along the trunk highway. Therefore, all costs associated with a new interchange or grade separation on an existing freeway must be approved by Mn/DOT and will typically be 100% local responsibility. These costs will include any improvements, such as auxiliary lanes on the existing freeway deemed necessary by Mn/DOT to accommodate the inter interchange or grade separation. (See Section I D 3b 2iii of Guidelines for Cooperative Construction Projects):

- **Expressways (TH55)**

Mn/DOT has a separate cost participation policy for interchanges and grade separations. Our participation is limited by that policy and at the current time, this has not been identified as a need. . (See Section I D 3b 2iv of Guidelines for Cooperative Construction Projects):

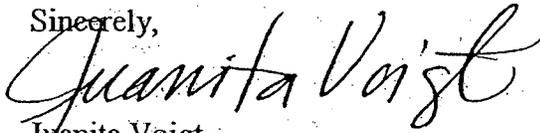
- As you may be aware, the City of Eagan is also proposing a development that would affect traffic operations on their local system as well as on the Trunk Highways and Interstate in the nearby area. In light of this, we suggest that the two cities coordinate the proposed developments with one another in terms of accurately assessing traffic impacts to the roadways in this part of the metro area. Since more than one city is involved, Mn/DOT would be willing to participate in a multi-jurisdictional effort to look at transportation infrastructure needs and would be open to exploring partnership opportunities both Inver Grove Heights, Eagan and other affected municipalities in this impact area.

Monitoring:

- Mn/DOT requests that Inver Grove Heights commit to a monitoring program in an effort to link permitted development to the capacity of the surrounding road network. Traffic levels would be reported as various stages of development are proposed (e.g. 25%, 50%, 75% and full build out) as a check on the development program and its impact on the regional road network. This report should include analysis on all segments analyzed in the AUAR.
- If Inver Grove Heights proceeds forward with interchanges proposals, Mn/DOT requests that in addition to the operational modeling described under traffic forecasting and permitting, that an Interchange Management Plan be developed for each of the interchange project (existing and proposed) in the project area. Please refer to the attached "Suggested Interchange Area Management Plan Contents".

This letter is based on the comments of Mn/DOT's functional work groups. If you have any questions regarding this letter, feel free to contact me at 651-634-2083. General questions regarding this area can be directed to Nancy Daubenger, Mn/DOT's Area Engineer, at 651-582-1379 or Lisa Freese, Mn/DOT's Southwest Area Manager, at 651-582-1409.

Sincerely,



Juanita Voigt
Transportation Planner

Enclosures:

- 1) FHWA letter dated July 26, 2005 (re: Inver Grove Heights NW Expansion Draft AUAR)
- 2) Mn/DOT letter to City of Inver Grove Heights, 12/07/2004 (re: previous draft AUAR)
- 3) Twin City Travel Demand Forecasts Prepared for Mn/DOT Metro: Model and Parameters for Adjustments to Model Inputs – revised 03/2/2003
- 4) Twin City Travel Demand Forecasts Prepared for Mn/DOT Metro: Model Output Checks for Reasonableness and Post Processing Adjustments – revised 10/21/2003
- 5) Twin City Travel Demand Forecasts Prepared for Mn/DOT Metro: Documentation of Forecast – 07/20/2003
- 6) Suggested Interchange Area Management Plan Contents – Mn/DOT

Copy: Jon Hohenstein / Community Development Director - City of Eagan
Mike Ridley / City Planner - City of Eagan
Bonestroo, Rosene, Anderlik, & Associates
Lynn Moratzka / Dakota County Planning Director
Ann Braden, Metropolitan Council



Minnesota Department of Natural Resources

500 Lafayette Road
St. Paul, Minnesota 55155-4025

August 3, 2005

Mr. Tom Link
Community Development Director
City of Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, MN 55077-3410

RE: Inver Grove Heights Northwest Expansion Area
Draft Alternative Urban Areawide Review

Dear Mr. Link:

The Department of Natural Resources (DNR) has reviewed the Inver Grove Heights Northwest Expansion Area Draft Alternative Urban Areawide Review (AUAR). We offer the following comments for your consideration.

Description (Item No. 6a, page 9)

The AUAR mentions the use of a "variety of low impact development techniques" to protect high quality natural resources. Low Impact Development is a comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds. It includes alternative site designs such as housing clusters, non-grid street patterns, narrow streets, greenways and on-site storm water infiltration. While the AUAR mentions the inclusion of greenways and provides a sufficient description of infiltration, it does not embrace Low Impact Development in a way that will benefit the City, developers, homebuyers and the environment. The AUAR misses an opportunity to take advantage of practices and technologies to minimize land disturbance, preserve effective open space, protect natural processes and link green infrastructures. DNR recommends that the City re-evaluate its approach towards Low Impact Development.

Cover Types (Item No. 10, pp.19-20)

Table 10.1 indicates that the anticipated development of the study area will convert 293 acres of woodland/brushland to residential or commercial land use. On page 20, the AUAR states that moderate- to poor-condition oak woodland-brushland represent the majority of upland natural area occurrences in the study area. Regardless of the quality of the woodland, this is a significant amount of conversion. DNR assumes that not all the trees in the affected woodland areas will be removed. However, the loss of trees and the understory brush can result in significant changes to the ecological functions of the area. In the absence of a comprehensive forest/tree inventory providing at least a tree tally with average tree diameter and species composition, it is difficult for DNR to provide substantive comments on either the ecological effects of the potential timber harvest and harvesting of other forest products.

Depending on the condition of the wood that is removed, the City may elect to market it as sawlog, landscaping material, firewood, or bio-fuel for the production of energy. DNR

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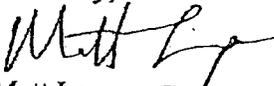
Mr. Link
August 3, 2005
Page 2

recommends that the City contact Jean Mouelle, Regional Forest Utilization and Marketing Specialist (651-772-7567), for advice on this subject.

Mitigation Plan Recommendations for Natural Communities (page 22 and page 124)
The AUAR calls for implementation of the Land Use and Surface Water Management Plans, which "recommend protection of large areas of the existing upland and wetland open spaces." The DNR strongly recommends that mitigation include protection of existing upland and wetland open spaces.

Thank you for the opportunity to review this document. We look forward to receiving your Final AUAR and Mitigation Plan at a future date. Please contact me at 651-297-3359 if you have questions regarding this letter.

Sincerely,



Matt Langan, Environmental Planner
Environmental Review Unit
Division of Ecological Services
(651) 297-3359

c: Tim Bremicker, Tom Balcom, Wayne Barstad, Jon Larsen – EQB, Dan P. Stinnett – USFWS.

ERDB#19990769-0003

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August 3, 2005

Office of Planning
G. Moratzka, AICP
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Tom Link
Community Development Director
City of Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, MN 55077

RE: Draft AUAR for the Northwest Expansion Area

Dear Mr. Link:

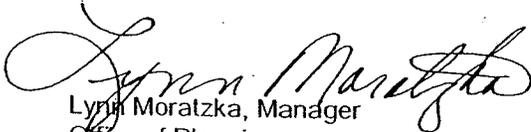
Thank you for the opportunity to review and comment on the Draft Alternative Urban Area Review (DAUAR) for the proposed Northwest Expansion Area. Physical Development Division staff have reviewed the DAUAR and their comments are attached to this letter.

Overall, we support the general concept for urban development land uses, and we support the City's proposed use of innovative methods for management of stormwater and wetlands. However, County staff are concerned about the trips that will be generated by the anticipated development and the negative impact on the County and State roadway systems that will occur.

County staff suggest that the City meet with County and State agency representatives to discuss how to deal with the proposed road infrastructure needs for the area and how the changes should be coordinated with neighboring communities. We would be available to facilitate or participate in such discussions.

If you have any questions, please call me at (952) 891-7033.

Sincerely,


Lynn Moratzka, Manager
Office of Planning

Encl

c: Nancy Schouweiler, Dakota County Commissioner – District 4
Brandt Richardson, County Administrator
Greg Konat, Director, Physical Development Division
Phyllis Hanson, Senior Planner, Metropolitan Council
Lisa Freese, South Area Manager, Mn/DOT Metro District

Dakota County Comments -- Draft AUAR for the Northwest Expansion Area

Section 6 - Description

Part a, Anticipated Types and Intensity of Development

The DAUAR states that "the development plan for the area will use a variety of low-impact development techniques and preservation of existing natural resources and regional basins to manage storm water in the area. The land use plan therefore features relatively large green spaces and corridors to allow for storm water infiltration and collection in the regional basin areas."

Comment:

County staff support these techniques and find them to be consistent with the goals and policies of the Dakota County Environment and Natural Resources Management Policy Plan.

The DAUAR states that "the land use plan for the Northwest Expansion Area has changed in some minor respects from the land use plan included in the City's Comprehensive Plan, but the overall residential density of approximately 3 units per acre remains the same for the area. The proposed land use plan is therefore consistent with the adopted Comprehensive Plan."

Comment:

County staff agree that the types of proposed land uses for the Northwest Expansion Area may be "consistent" with the City's comprehensive plan. However, the intensity of development and the trips that will be generated from the area differ significantly from the 2025 Travel Demand Model traffic forecast that Dakota County prepared based on land use information received from the City in 1999/2000. The County's 2025 forecast for the Northwest Expansion Area is 30,000 Average Daily Traffic (ADT); the estimated trips from the DAUAR indicate over 90,000 ADT – an increase of over 200 percent.

The traffic study in the DAUAR shows 152,183 trips will be generated by the proposed land uses – a net gain of 92,000 new trips to the roadway system. As a result, the City is proposing substantial infrastructure changes that go beyond those in the County's needs map. This change in land use plans and corresponding need for roadway system improvements should be dealt with through a collaborative effort with the neighboring cities, Dakota County and the Minnesota Department of Transportation (MnDOT). The issue of regional need versus development-driven plans will be key to the discussion.

In addition, the transportation chapter of the City's comprehensive plan (page 91) uses the County's year 2020 volume projections for Inver Grove Heights. The DAUAR states that the proposed development in the Northwest Area of the city "will occur over the next 20 years", which means to the year 2025 (page 12). This timeline goes beyond the planning horizon of the City's 2020 Comprehensive Plan, and beyond the 2025 traffic modeling estimates that Dakota County prepared, based on the land uses in the City's adopted 2020 comprehensive plan.

For the above reasons, County staff suggest that the City prepare an amendment to the 2020 Comprehensive Plan, that will include more recent data regarding the Northwest Expansion Area and will address infrastructure/development staging issues.

Part b, Infrastructure Planned to Serve the Development

The overall roadway system needs for this development are described throughout the DAUAR and are listed on page 91, Table 21.4, "2025 lane recommendations". These needs are based on the traffic that will be generated by the proposed development.

Comment:

County staff prepared a table (attached) that shows the County's 2025 Travel Demand Model forecast of Annual Average Daily Traffic (AADT) and future needs. The needs identified by the City in the DAUAR would be a tremendous change, compared to the current system needs. A change in development plans of this magnitude, required interchanges and roadway expansion beyond the anticipated needs will have major regional impacts on the system.

County staff suggest that the City add the County's existing 2025 Travel Demand Model AADT forecasts and the County highway lane needs to Table 21.4 in the DAUAR, to show the contrast between the anticipated needs and the recommendation needs to accommodate the proposed development. Also, the headings on the table should be modified to clearly identify AADT with the proposed development and AADT with the base line condition.

Roadway Names.

The DAUAR "recommends that CR 63 in the southbound direction be widened to a 5 or 6-lane roadway from north of I-494 to south of TH 55"; that "CR 73 will require the addition of lanes"; and that "CR 26 will need to be widened."

Comment:

The correct name of "CR 63" north of Trunk Highway 55 is County State Aid Highway (CSAH) 63. The correct name of "CR 73" north of TH 55 is CSAH 73. The correct name of "CR 26" is CSAH 26. Please amend the DAUAR to include these corrections.

Part c, Anticipated Staging of Various Developments and of the Infrastructure, and How the Infrastructure Staging Will Influence the Development Schedule

The DAUAR states that "Development of the area will occur over the next 20 years. The pace of development will depend on market conditions and individual property owner decisions regarding development or redevelopment. Infrastructure will be staged so that necessary sewer, water, roadway and other infrastructure is in place to accommodate the proposed development. Some roadway infrastructure development will depend on the plans and schedule of the Minnesota Department of Transportation and Dakota County."

Comment:

County staff suggest that the above language be amended to: (a) more fully describe how proposed development will be staged to follow the sewer service Utility Phasing schedule and map in the City's 2020 comprehensive plan (instead of infrastructure "accommodating" the timing of the proposed development), and (b) state that the City will not approve development plans that require non-local roadway or interchange improvements until the responsible agency has planned for such projects and allocated funding in their capital improvement plans.

**Section 10 - Cover Types; Section 11 - Fish, Wildlife and Sensitive Resources;
Section 12 - Physical Impacts on Water Resources - Wetlands
Section 17 - Water Quality: Surface Water Runoff**

The DAUAR states that "the stormwater management approach proposed for the Northwest Expansion Area is an alternative to the collect-and-concentrate approaches from the past. The environmental benefits of this approach include reduced wetland and open space impact, improved water quality, ...reduced runoff and erosion, closer to natural water infiltration/recharge, reduced negative impact [on] upland habitat and enhanced public awareness."

Comment:

County staff support the proposed management and mitigation plans, and the proposed alternative stormwater management approach, and find them to be consistent with the goals and policies of the Dakota County Environment and Natural Resources Management Policy Plan.

Also, future road segment needs are not identified on the figures that show the proposed roadway geometry (Figure 21-7).

County staff suggest that a more detailed assessment of road segment needs is needed, to determine the improvements that will be required to serve this development. A more detailed geometric plan is also needed to address impacts from traffic that will be generated from this development. Recommendations for system improvements should be based on study and discussion that includes all of the affected municipalities and agencies.

Road Segment Needs.

CSAH 63 (between I-494 and TH 55)

The existing road segment is two lanes. The DAUAR indicates a need for 5 or 6 lanes in 2025. The DAUAR proposes future interchange ramps at CSAH 63 and TH 55; and also "assumes an interchange at [CSAH] 63 and Interstate 494 would be constructed and in-place for the future condition."

Comment:

The County's recent practice has been to use access management tools to manage capacity on 4-lane divided highways instead of building 6-lane highways. Most existing County highways that meet 6-lane requirements also have access spacing restrictions of one-half mile. County highways with traffic that exceeds a 6-lane divided highway capacity often exhibit unique operational challenges, because at-grade intersections and traffic signals can limit the ability of the additional lanes to significantly increase capacity.

For this segment of CSAH 63, the County's 2025 Transportation Plan indicates:

- the functional classification is "collector" (the DAUAR shows it as "Community Collector");
- traffic on the roadway will exceed its design capacity in the year 2025.

The County's current Plat Review Needs map shows a two-lane road with 50 feet of half right-of-way for urban design.

The County's 2025 Transportation Plan shows a need for a "half-diamond" interchange in the year 2025 at CSAH 63/TH 55, but no interchange at CSAH 63/I-494. Also, MnDOT is studying a proposal to extend the ramps at the TH 149/I-494 interchange to the east. This change would shorten the distance between that interchange and the proposed CSAH 63/I-494 interchange. County staff suggest that the City work with MnDOT and the City of Eagan on this proposal.

County Road 63 (south of TH 55)

The existing road segment is two lanes. The DAUAR indicates a need for 4 lanes in 2025.

Comment:

The County's 2025 Transportation Plan identifies this segment of County Road 63 as a potential candidate for jurisdictional transfer from the County to the City.

CSAH 73 (south of I-494 to TH 55)

The existing road segment is two lanes. The DAUAR indicates a need for 2 or 3 lanes by 2025.

Comment:

For this segment of CSAH 73, the County's 2025 Transportation Plan indicates:

- the functional classification is "collector" (the DAUAR shows it as "Community Collector");
- traffic on the roadway will exceed its design capacity in 2025.

The County's current Plat Review Needs map shows a two-lane road with 50 feet of half right-of-way for urban design.

Section 21 - Traffic

General comment:

County staff suggest that the DAUAR be revised to:

- (a.) reflect the following County comments on the magnitude of the City's proposal – as compared to the County's identified needs for this area of Inver Grove Heights; and
- (b.) to provide a plan for the staging of the proposed roadway system infrastructure that is coordinated with adjacent communities and with Dakota County and MnDOT plans.

Trip Generation.

Comment:

The traffic study in the DAUAR shows 152,183 trips will be generated by the proposed land uses; this will result in a net gain of 92,000 new trips to the system (Table 21.3 page 87). The County's 2025 Travel Demand Model -which used the land use data from the city's 2020 comprehensive plan - shows just under 30,000 trips generated (see amended Tables 21.3 and 21.4, attached).

County staff recommend that the DAUAR be amended to list the current trip generation for each Traffic Assignment Zone (TAZ) and the County's 2025 forecast of trip generation based on the Dakota County Travel Demand Model, with the data from the traffic study in Table 21.3. Also, the column headings should be renamed as needed, to distinguish between current projections and projections that will result from the proposed trip generation.

City's Approach to the Recommendations of System Needs.

The overall needs for this development are described throughout the DAUAR and are listed on page 91, Table 21.4, "2025 lane recommendations". These needs are based on traffic from the proposed development.

Comment:

The County's 2025 Travel Demand Model AADT forecast and future roadway needs are shown in the attached table. The needs identified in this study are tremendous, when compared to the current system needs. A change in development plans of this magnitude will require interchanges and widening beyond those anticipated, and will have major regional impacts.

County staff recommend that the DAUAR be amended to add the County's existing forecast of 2025 Travel Demand Model AADT's and the County needs map highway needs to this table, to show the difference from the recommendations needed to accommodate this development. Also, the column headings should be modified to clearly identify AADT with development and AADT with the base line condition.

Overall Segment Analysis Approach and Conclusions.

The traffic study identifies roadway segment needs based on generalized average daily traffic thresholds.

Comment:

County staff suggest that a more in-depth understanding of the roadway needs would be helpful, along with new access spacing for the area, to enable the City and County to manage a system expansion of this magnitude. It is not sufficient to simply widen roadways and upgrade traffic controls at intersections.

The roadway needs proposed in the DAUAR are in direct conflict to proposals for highway system changes in adjacent cities (specifically, the TH 149/I-494 interchange in Eagan).

County staff suggest that the City consider adding transit options and bicycle and pedestrian amenities as alternatives to automobile trips for this area.

Section 27 – Compatibility with Plans

The DAUAR states that "the proposed land use plan is therefore consistent with the adopted Comprehensive Plan" and that "The AUAR and proposed development are generally consistent with the City's Comprehensive Plan."

The DAUAR also states that "The City will be seeking approval of a Comprehensive Plan Amendment from the Metropolitan Council that includes the land use changes proposed for the Northwest Area since the adoption of the City's Comprehensive Plan."

Comment:

As noted in our comments on Section 6, County staff recommend that the City prepare a plan amendment - due to the large increase in trip generation, need for roadway improvements, and to address the staging of development based on the availability of funding for the proposed roadway and interchange projects.

Section 28 – Impact on Infrastructure and Public Services

The DAUAR states that "The new infrastructure (roads, utilities, etc.) required to serve the project are detailed under the appropriate items in this AUAR." and that "The City will need to work with MnDOT and Dakota County regarding timing and funding of improvements to County and State highways."

Comment:

The trip changes that will be generated from the proposed development greatly exceed the forecasted trips in the County's 2025 Travel Demand Model and will result in an overwhelming negative impact to the County highway system. The DAUAR (and the City's Comprehensive Plan) should be amended to include policies that condition the City's approval of projects in the Northwest Area on the availability of planned and funded roadway infrastructure that is needed to support each phase of development. Dakota County staff are willing to meet with City staff and MnDOT staff to discuss issues of planning and coordination of services for this area.

Section 29 – Related Developments; Cumulative Impacts

The DAUAR states that "The Comprehensive Plan completed by the City of Inver Grove heights, which includes proposed development in the AUAR area, addresses the growth planned for the community by the Metropolitan Council, and plans for the infrastructure needed to accommodate this growth, in light of growth expected in surrounding areas. The proposed infrastructure is consistent with the capacity of regional systems to serve this area. The City's Comprehensive Plans, plus the special studies completed for the AUAR area... have identified the potential impacts of development across the AUAR area, and have prepared strategies and approaches to avoid impacts where possible, and mitigate for other impacts, while maintaining the amount and types of growth proposed in the City's Comprehensive Plan."

Comment:

The DAUAR indicates that there will be sufficient available or planned capacity in the sewer and water systems that will serve the area. The DAUAR also describes approaches to manage stormwater and preserve wetlands and open space for wildlife habitat. However, the DAUAR has not addressed the fact that Dakota County and MnDOT are not currently planning for the roadway or interchange improvements that will be needed to serve the proposed development. Without a viable staging plan for roadway infrastructure, the proposed development will have a significant negative impact on County roads.

CSAH 26 (from Eagan city limits to CSAH 73)

The existing road segment from the Eagan border to west of TH 3 is two lanes. The DAUAR shows the part of the roadway that is located west of CSAH 63 will need 4 lanes by 2025; the part that is located from east of CSAH 63 to the west of TH 3 will need 5 or 6 lanes by 2025. The existing road segment from the west of TH 3 to east of CSAH 73 has 2 lanes in some parts and 4 lanes in other parts. The DAUAR shows this part of the roadway will need 4 lanes by 2025.

Comment:

For this segment of CSAH 26, the County's 2025 Transportation Plan indicates:

- the functional classification of the highway segment is "A-Minor Arterial" (same as DAUAR);
- this roadway segment will be under capacity in 2025.

The County's current Plat Review Needs map shows a 4-lane divided road with 100' of half right-of-way.

Future Study. (not an item in the DAUAR)

The Mitigation Plan in the DAUAR recommends that the portion of TH 3 from south of I-494 to south of TH 55 "should be widened to provide four lanes along its entire length in the study area."

Comment:

TH 3 is classified by MnDOT as a "Preservation" highway. This means that the existing two-lane roadway will be maintained as needed, but there are no plans or funding to add lane capacity.

The County's 2025 Transportation Plan calls for:

- a north-south principal arterial study in the TH 3 corridor area extending north-south from I-494 to CSAH 42 and east-west between CSAH 31/33 and CSAH 73; and
- collaborating with MnDOT to study the needs of the TH 3 corridor between the cities of Inver Grove Heights and Farmington.

County staff suggest that the City review the proposed development in relation to the goals, policies and strategies from the Dakota County 2025 Transportation Plan, which can be viewed at the Office of Planning webpage on the Dakota County website: www.co.dakota.mn.us

Local Road System. (not an item in the DAUAR)

Comment:

County staff recommend that the City plan for a good interior network of local roads to provide land access in the area that is in accordance with access spacing guidelines.

Local property access to CSAH 63, CSAH 26 and CR 73 would have to be via existing or proposed public roadways based on the anticipated traffic volumes.

The proposed AADTs and recommended lane expansion needs will require greater access spacing than the current land use plan. Dakota County will need to consider this more restricted spacing, along with the proposed County highway needs, as each development proposal adjacent to a County road is reviewed by the County Plat Commission.

Other Items.

Comment:

CSAH 63 and CSAH 73 are classified as collectors and are not eligible for federal funds.

County staff suggest that City staff meet with our County Transportation Department staff to discuss the findings and recommendations in greater detail, since none of the proposed road projects are identified in the County's 2025 Transportation Plan or Plat Needs Map.

Until the County and MnDOT have prepared plans and allocated funding for roadway projects to serve the Northwest Area, County staff recommend that the City limit new development in the area to locations that can be served by existing and fully-funded planned infrastructure.

Mitigation Plan

Improvements identified in the DAUAR to address the proposed development are limited to current roadways. The "proposed connection to Eagan" does not have volume estimates.

Comment:

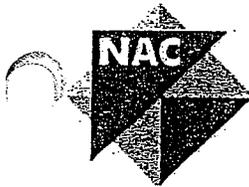
County staff recommend that an area wide approach (with new internal street connections, expansion and an access management plan consistent with the new land use plans for the area) is needed to address the proposed addition of more than 90,000 new trips to the system. The mitigation recommended in this study is well beyond the scope of plans in Dakota County's 2025 Transportation Plan. A more comprehensive assessment that includes all-affected agencies is needed to address the highway system changes as suggested by the DAUAR.

Table 21.3 Estimated 2025 Vehicle Trips

TAZ	Daily - per AUAR	2025 - County Model	Diff. %
1	6923	1178	488%
2	26951	2688	903%
3	16647	6618	152%
4	31852	1375	2217%
5	40096	3668	993%
6	13742	6339	117%
7	2412	2524	-4%
8	11074	4587	141%
9	2486	462	438%
Subtotal	152183	29439	417%

Table 21-4 2025 Lane Recommendation

Road	Segment	2003 AADT - state map	County Model 2025 AADT	Existing Lanes	Dakota County Needs Map (projected future road section)
63 (Argenta Trail)	North of CR 26, South of I-494	2150	6000	2	2
	South of CR 26 North of TH 55	3400	8500	2	2
TH 3 (S. Robert Trail)	South of TH 55	6500	9800	2	2
	North of CR 26	8200	9100	2	4
	South of CR 26	6700	9800	2	4
CR 73 Babcock	South of TH 55	7600	10700	2	4
	North of CR 26	2450	2700	2	2
CR 26 (70th Street)	South of CR 26	2220	2800	2	2
	West of CR 63	6000	18000	2	4
	East of CR 63 West of TH 3	5700	18000	2	4
	West of TH 3, East of CR 73	7200	16000	2 or 4	4
	East of CR 73	10000	18000	4	4



NORTHWEST ASSOCIATED CONSULTANTS, INC.

4800 Olson Memorial Highway, Suite 202, Golden Valley, MN 55422
Telephone: 763.231.2555 Facsimile: 763.231.2561 planners@nacplanning.com

August 3, 2005

Mr. Tom Link
Community Development Director
City of Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, MN 55077

RE: Sunfish Lake – Response to Inver Grove Heights Northwest Expansion
Area AUAR

NAC FILE: 211.02

Dear Mr. Link:

This office serves as the City Planner for the City of Sunfish Lake. The following represents the City of Sunfish Lake's response to the Inver Grove Heights Northwest Expansion Area AUAR on behalf of the Sunfish Lake City Council:

- **Proposed I-494 and CR 63 Interchange.** The City of Sunfish Lake's Comprehensive Plan adopted in 1998 and subsequently approved by the Metropolitan Council states opposition to the proposed interchange. The City of Sunfish Lake holds firm in its opposition to this interchange and has grave concerns with the potential negative impacts such an interchange would have on Sunfish Lake residents and infrastructure.
- **Increased Traffic Generation.** The City of Sunfish Lake has concerns with the proposed expansion of South Robert Trail/Trunk Highway 3 and County Road 63/Argenta Trail. The AUAR report proposes expansion of TH 3 to four lanes from north of I-494 to Highway 55 and expansion of CR 63 to five or six lanes south of the proposed interchange. The AUAR fails to mention proposed expansion of CR 63 north of the interchange, which would inevitably be necessary to accommodate increased traffic from the proposed interchange, traffic generated by the proposed land uses within the AUAR area and the widening of CR 63 south of the interchange. Further, expansion of both TH 3 and CR 63 within the City of Sunfish Lake's jurisdiction would not only be necessary to reasonably accommodate increased traffic generation from the proposed interchange and roadway expansions with the Northwest Expansion

Area, but would have serious impacts on Sunfish Lake's infrastructure and residents.

- **Compatible Land Uses.** Another concern with the proposed Northwest Expansion Area for residents of Sunfish Lake is that the proposed land uses south of 60th Street, surrounding the southern half of Hornbeam Lake are inconsistent with those currently existing on the portion of the lake within the City of Sunfish Lake. The draft AUAR shows proposed land uses surrounding Hornbeam Lake north of I-494 to be high density residential, while the existing land uses within Sunfish Lake surrounding the northern portion of the lake are low-density, single-family residential. The City of Inver Grove Heights' 1998 Comprehensive Plan identifies this area as being guided for rural density residential. Concern is that existing and new proposed land uses will not be consistent surrounding Hornbeam Lake and potential negative impacts to existing Sunfish Lake residents and conflicts with the Shoreland Overlay District of Hornbeam Lake are apparent.

The Sunfish Lake City Council requests that additional analysis be done to determine the potential adverse impacts high density residential development around the southern portion of Hornbeam Lake will have on Sunfish Lake resident's quality of living and potential environmental impacts to the lake water and shoreland overlay area.

- **Water Quality of Hornbeam Lake.** The Sunfish Lake City Council identifies the water quality of Hornbeam Lake as a significant issue of concern. The City Council requests that additional measures be taken to redirect drainage away from Hornbeam Lake and/or explore alternative measures for drainage in and around the lake.
- **Wildlife Migration Patterns and Habitat.** The Sunfish Lake City Council has apprehension about the wildlife migration patterns and existing habitat surrounding and within Hornbeam Lake. The Council would like information on how the Northwest Expansion Area's proposed land use changes will impact the wildlife habitat around Hornbeam Lake and what measures will be taken to assure the least amount of impact to species in that area.
- **Cumulative Impacts.** The AUAR identifies traffic as the only area of impact affecting related developments and/or projects outside the AUAR area and further states that there are no other identified environmental impacts to areas outside the Northwest Expansion Area. The Sunfish Lake City Council strongly disagrees with the notion that additional environmental impacts will not occur outside the AUAR area.

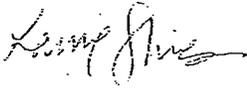
The City of Sunfish Lake has in place zoning regulations that preserve the environment and diminish impacts to the existing ecology wherever possible. The Sunfish Lake City Council feels that the proposed interchange and high

density residential development near a protected, DNR-designated recreational development lake will have obvious environmental impacts. Not only are these proposed land use changes incompatible with the City of Sunfish Lake's Zoning Ordinance and development practices, but also seem inconsistent with the City of Inver Grove Heights' present Shoreland Zoning.

We appreciate the opportunity to comment on the Inver Grove Heights Northwest Expansion Area AUAR and look forward to your responses.

Best Regards,

NORTHWEST ASSOCIATED CONSULTANTS, Inc. on behalf of the City of Sunfish Lake



Laurie Shives
Planner

- c. Mayor Molly Park
- City Council
- Planning Commission
- Myra Hamper, City Clerk
- Cathy Iago, Deputy Clerk
- Don Sterná, City Engineer
- Tim Kuntz, City Attorney
- Mark Johnson, City Forester



City of Eagan

Pat Geagan
MAYOR

Peggy Carlson
Cyndee Fields
Mike Maguire
Meg Tilley
COUNCIL MEMBERS

Thomas Hedges
CITY ADMINISTRATOR

August 2, 2005

VIA FACSIMILE: 651-450-2502
TOM LINK
CITY OF INVER GROVE HEIGHTS
8150 BARBARA AVE
INVER GROVE HEIGHTS MN 55077

Dear Tom:

Thank you very much for the opportunity to comment on the Northwest Inver Grove Heights AUAR. City staff and the Council have had an opportunity to review the document and in action at its meeting of August 1, 2005, the Council approved the enclosed comments to be submitted as a part of the AUAR review.

If you have any questions concerning these comments, please let me know. We look forward to the City of Inver Grove Heights' responses to them in the final AUAR.

Sincerely,

Jon Hohenstein
Community Development Director

JH/js

Encl.

cc: Tom Hedges, City Administrator

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3830 Pilot Knob Road
Eagan, MN 55122-1810
651.675.5000 phone
651.675.5012 fax
651.454.8535 TDD

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651.454.8535 TDD

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City of Eagan
Comments Regarding the
City of Inver Grove Heights
Northwest Expansion Area
Draft Alternative Urban Areawide Review
August 1, 2005

The City of Eagan appreciates the opportunity to provide input on the Draft AUAR for the City of Inver Grove Heights Northwest Expansion Area. The following comments are submitted for that purpose.

General

The City of Eagan Comprehensive Plan designates the property along the Cities' common boundary adjacent to the AUAR study area for Office Service north of Highway 55, for Low Density Residential between Highway 55 and Yankee Doodle Road and for Business Park and Limited Industrial Use between Yankee Doodle Road and the southern AUAR boundary. The City views the proposed Commercial land use adjacent to I-494 in Inver Grove Heights to be consistent with the current and future development of the Waters Office Park and adjacent areas in Eagan. The City also views the proposed Industrial Office land use adjacent to Highway 55 in Inver Grove Heights to be generally consistent with Eagan's Office Service area, although it should be noted that the adjacent land use in Eagan is proposed for development as an institutional use. The City views the Low Density Residential area between Highway 55 and Yankee Doodle Road to be generally consistent with the Bur Oaks development area in Eagan. Recognizing that the need for buffering, screening and other considerations is typically greatest between commercial and residential uses, the City encourages the City of Inver Grove Heights to take this into account in the possible development of the Medium Density and Low Density residential areas along the common boundary, which will abut Eagan's Office Service, Business Park and Limited Industrial uses.

As discussed in more detail in the Transportation System Comments below, the City of Eagan has identified future growth in regional background traffic combined with traffic from the further development of this area of the two cities as a substantial emerging issue. In particular, the region's ability to address these issues is expected to take the concerted effort of the Cities, Dakota County, the Metropolitan Council and MnDOT. The Eagan City Council has directed staff to address this issue in the Transportation section of its next Comprehensive Guide Plan update and to work with the affected agencies to plan for, prioritize and secure funding for upgrades of the County and State road systems and expanded access to Interstate 494.

Transportation System

↳ Figure 5-3 *Existing Land Use*

✍ All maps/figures should show Yankee Doodle Road extension (149 to 55)

↳ Page 11 *Roadway Network*

✍ CR 63 ends at TH 55 now. Refer to Yankee Doodle Road (CSAH 28) south of TH 55.

✍ Intersection of CR63 and TH 55 – future interchange of CSAH 28 and TH 55

↳ Page 79 *Traffic*

✍ Reference CSAH 28 (Yankee Doodle Road) vs. CR 62 at TH55 and to south

↳ Page 88 *Traffic*

✍ Mention/account for traffic generation estimated for NE Eagan Study on 494, 55 and CR 63

✍ What if new interchange is not added on I-494? Traffic shifted to ??

✍ Background growth on I-494 and TH 55 accounted for? No increase in congestion on I-494 and TH 55?

✍ TH 55 and I-494 will continue to operate at satisfactory levels post-development with no improvements?

↳ Figure 21-5 (Page 89) *Traffic*

✍ Future interchange spacing on TH55 may not meet MnDOT access management guidelines. NE Eagan Study shows interchanges at west intersection of TH 55 & TH 149 and east intersection of TH 55 & TH 149.

↳ Page 120 *Roadway Network*

✍ Without additional lanes on 55 and 494, impact to regional system will be more than minimal

Sanitary Sewer System

↳ Page 11 *Sanitary Sewer System*

✍ There should be some mention of Eagan/Inver Grove Heights Joint Powers Agreement (area south of TH 55)

↳ Page 64 *Water Quality – Wastewaters*

✍ Discuss JPA with Eagan for sanitary sewer

↳ Figure 18-1 (Page 65) *Sanitary Sewer System*

✍ This area can/will be served by JPA with Eagan (south of 55)

↳ Page 120 *Sanitary Sewer System*

✍ Mention sanitary sewer accommodated by Eagan's system (JPA)

Water System

↳ Page 30 b. *Water Use*

✍ Include discussion of Joint Powers Agreement (JPA) with Eagan.

↳ Figure 13-1 *Trunk Water Supply*

✍ Indicate JPA area along west boundary of AUAR area.

↳ Page 120 *Municipal Water System*

✍ Mention water accommodated by Eagan's system (JPA)

Storm Sewer System

↳ Page 14 *Permits and Approvals Required*

✍ Gun Club WMO does not issue permits. Inver Grove Heights is LGU for wetland replacement.

↳ Page 44 *Water Quality – Surface Water Runoff*

✍ AUAR area within GCLWMO may drain to Waters with Restricted Discharges (Fort Snelling State Park fen). Address revised NPDES permit and Non Degradation.

↳ Table 17.3 (Page 53) *Water Quality – Surface Water Runoff*

✍ Include discussion/comparisons of ponds flowing/shared by Eagan (GCLWMO)

↳ Table 17.4 (Page 54) *Water Quality – Surface Water Runoff*

✍ Include a table for Discharge from the GCLWMO Watershed?

↳ Page 120 *Stormwater System*

✍ Mention storm water accommodated by Eagan's system (JPA)

Forestry

↳ Page 9 Proposed Development

✍ The AUAR appears to address natural resource issues and preservation of the limited tree resource in the study area satisfactorily. The Proposed Development paragraph states that with most of the existing tree vegetation being located in valleys/ravines/hillsides/etc., they will be utilizing "low impact" development techniques to preserve vegetation in the above mentioned areas. Also, that their land use plan features preserving large, open spaces as green areas and as water infiltration areas.

Water Quality

↳ From a surface water quality perspective, the AUAR sufficiently and thoroughly addresses all relevant issues to the level of detail expected of such a review. Further, it appropriately indicates the approaches that will be taken to address surface water quality issues in more detail prior to and during specific development of the area.

Parks

↳ Extensive connectivity of both natural (greenways) and created elements (trails) between NW IGH and NE Eagan should be considered. The City border should not be a hindrance to extensions of new or existing amenities—(under or over pass for 55 ?)

↳ The provision of active recreational areas (playgrounds, game fields, play space, etc) within the new residential areas of NW IGH may be appropriate. Without them, the influx of residents may impact existing Eagan neighborhood parks which have limited capacity. (park dedication ?). Because development of NE Eagan will be primarily Commercial/Industrial the likelihood of there being a new Eagan park that could provide opportunity for the area is minimal.

Aircraft Noise

↳ The AUAR does not appear to make any reference to airport noise impacts from aircraft operating at Minneapolis St. Paul International Airport. The Metropolitan Council Airport Noise Policy Contours one mile buffer area extends approximately $\frac{3}{4}$ mile into the study area from its western boundary. While the Metropolitan Council reserves land use policy for noise compatibility within this area to the cities, the presence of this possible impact on potential noise sensitive land uses should be addressed in the AUAR. The City of Eagan has discouraged new residential uses in the area southeast of Minneapolis St. Paul International Airport and, while the City respects the City of Inver Grove Heights' authority to determine its policies in this area, it would strongly

encourage Inver Grove to analyze this potential impact and address their policies in its regard as part of the AUAR.

City of Inver Grove Heights
Northwest Area Planning Initiatives

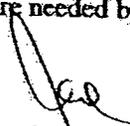
Inver Grove Heights Planning Commission

RE: Development Plans / AUAR

As a property owner in the NW Quadrant, I would like to voice a few concerns on the sudden rush to extend services. It appears that two developers (one of which only has an option on the property and the other who has no such option on a parcel included in their plan) are being used to push a project thru to force development on un-suspecting landowners. The people with small parcels of property will be left with a large assessment and no way to divide to cover costs. Also with the neighborhoods that were exempted (and still are shown to be serviced) I feel you are offering a preference to a select few that may be contested and taking a lot of contributors out of the mix.

As for the housing totals to finance the project, I feel your projections are unreal and need to be investigated farther. They appear to be the same if not more than when this project was first introduced. The terrain alone along with the many "Estate Homes" makes these numbers bogus to myself. A quick look at the AUAR alone shows areas that should not be included in total acreage for development along with Right of Ways and some wetlands.

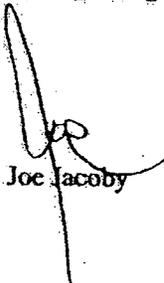
I would hope The City of IGH. would not shove utilities into this area way before they are needed by the masses for the benefit of a few.


Joe Jacoby
1060 72nd Circle West.
IGH.

IGH Planning Commission/IGH Council
RE: Development Plans / AUAR

As a member of the NW Area Task Force, I would like to voice a few concerns. It appears that after numerous tours of the NW Quadrant with staff and consultants, the final figures for densities were stilled based on a "Flat Plane" basis. The topography, and the AUAR appear to have been put to the side in favor of density. Do we not get any credit for the homes that have been built in the last 5-6 years? Is the Met Council actually requiring these types of densities, and has anyone actually checked? I am very uncomfortable with the cost of this project and the assessments the landowners will bear. If there is such a demand from developers, they should be the ones to finance the initial costs and charge others as they profit from development.

I would like to clarify that as a member of the Task Force I support the alternative storm water removal methods but do not support zoning or densities as shown. Also, I do not feel it was proper to have a potential developer at our meetings pleading their case for a zoning change.



Joe Jacoby

Inver Grove Heights Planning Commission**RE: AUAR Questions and Concerns**

As the property owner of two tracks of land, a "reality check" is necessary as to the assumptions and conclusions raised in the AUAR Draft.

6302 So. Robert Trail, approximately 13 acres (Property id #20-00500-010-31), is a residential homestead with a house, well and septic system that is less than 10 years old. It is true that I have no intention of developing this site in my lifetime. However, for future generations and surrounding development the AUAR should accurately reflect the current conditions. The city has the information and should recognize that a home exists. I object to the classification of underdeveloped. The AUAR should recognize the existing pond, steep slope and existing homestead as constraints to development. In no event should this acreage be used in any future density calculations or area wide assessments to pay for services that will not be used.

Vacant 15 acre parcel (Property id #20-05-0500-010-32) This parcel is not accessible to any existing street. Steep slope, sedge meadow and old oak groves make 75% of this land unbuildable, by definition from city building codes and the Natural Resource Inventory. This land should not be used to calculate future density or be assessed on an area wide basis.

Finally, I am against the concept of "bonus density" being awarded to buildable area, both on and off site that creates a massing of units. The AUAR has fixed the numbers relating to this issue to create a direct conflict between the existing Comprehensive Plan and proposed zoning.

I welcome any members of the Planning Commission that are interested in reviewing this specific site information to call on me anytime.

Thank you,

Bill Nichols
651 552-7440

*Northwest Area Planning Initiatives – Open House #1 Comments from participants
July 14, 2005*

Comments From Open House #2

Lori Wilson

8420 Alverne Avenue

651.681.1741

- Presentation – very informative, easy to understand
- Assistants at respective stations – very helpful in explaining their individual maps
- Double chocolate chip cookies were delicious
- Expedite!!!

Paul Mandell

General Comments

- Too much commercial – even for IGH let alone just this quadrant. Other than long deserved office complex if City can secure interchange on 494, 70th. Robert should be the neighborhood commercial core.
- Interchange and roads off Hwy 55 would then be more appropriately sealed and less impacting

Specific Comments

- My main complaint is even the planning of such and over building of the transportation network – most apparent with plans for 5-6 lanes on Argenta (or 63) and possibly 80th, along with some isolated cases of over-built intersections.
- My understanding is (as of today thru Bill Nichols) that Jen Peltier (43 acres at Argenta and Hwy 55) doesn't even want commercial. My understanding was from Task Force that the change to red was at property owners request and if that isn't the case, we should drop that red and return to original desres of the task force.

Nancy Lindell

7456 So. Robert Trail

651.455.9461

Specific Comments

- What recourse do I have regarding the new septic I was made to put in this year? The bill was over \$10,000. If the city knew this was coming why wasn't I asked to just keep it clean? When I called the city regarding this I was told water/sewer would not be in for 8-10 years.
- How much property can legally be taken for road? My property line now is across the road from my house.
- I have 12-15 evergreen trees that would probably need to be moved and relocated – would the city be willing to supply dirt, build a berm and relocate these trees?
- What will be done for a sound barrier for the home owners?

No Name

General Comments

- Several parcels have been excluded from any area wide assessments – but will be ablt to connect “if needed” in the future. Connection fees will apply but no area wide assessments. I'm sure these areas will receive equal fire protection, etc. “Doesn't sound equitable”

No Name

General Comments:

- AUAR 1) When zoning is placed over this are protected natural areas included in total acreage? 2) If the H2O and wetlands are protected is this substracted from total acreage?

*Northwest Area Planning Initiatives – Open House #1 Comments from participants
July 14, 2005*

Specific Comments:

- In regards to the sewer interceptor line. Some areas of the AUAR/interceptive area have all ready paid for the B-line assessments. There is a bolos of land owners with less than 200 acres in the far north area that feel the option of B-line extension is the best option in our area. The B-line extension is much more practical because 1) SFL will never have sewer 2) The extension of thterceptor will false many years 3) B-line was assessed in MUSA/Met Council plans 4) Development in the North has all ready been proposed and will be logical start to NW area 5) B-line has capacity and is ready to go wow Haumm park would allow services if Villuave, Kric, Rach water and other large blocks of undeveloped land in this area.

Steve and Sue Schnarr

8670 Alverno Ave W

686.6120

General Comments

- We are in "favor" of bringing water/sewer to the southern part of the area being studied. We own 10 acreas just north of Marrianna Ranch and west of the Alvarado Trail development. We would like to subdivide our land for future development.

Northwest Area Planning Initiatives – Open House #1 Comments from participants
July 27th, 2005

Comments From Open House #3.

Lori Wilson
8420 Alverno Avenue
651.681.1741

General

- Great Format – hoping it all moves forward

Specific:

- Expedite

Joe and Diane Van Assche
1304 Courthouse Blvd.
651.455.6156 Cell 612.240.3994 Please call!

Specific

- We would like to know if the Dart Property is maintaining their stormwater pond, and if we will be receiving any additional water from them in the future. We would also like to know what future ponds will be built to hold stormwater on their side. We would also like to know why (EP75) is classified as a lake.

Todd Foster
todd.foster@comcast.net
651.324.9848 cell

Specific

- Proposed future interchange @ I-494 and CSAH 63 needs more analysis and definition with coordinated talks between City of Eagan and Inver Grove, Dakota County and MNDOT and possibly Met Council. This definition impacts many aspects of Eagan's NE Area Study and IGH's NW Area Study and needs to be addressed before the AUAR is finalized.

Tamara Kappauf
1186 82nd St. E – IGH 55077
651.451.9657

General

- I have been selling real estate in the metro area for 18 years and one of the key selling features of Inver Grove Heights is that it is a "close-in" suburb, where people can find a large lot, a private setting, a more rural feel, have horses, etc. if they want. It makes me sad to see that this change is happening. I hope that the southern half of the city can still remain rural. It makes sense to put commercial and/or heavier density along the main thoroughfares – but I hope that the areas that are more "out of the way" can be lower density.

Specific

- I appreciate the effort that has gone in to preserve the water quality in the Marcott Chain of Lakes. I also appreciate the "green space" and parks that have been set aside. I think that putting an access to 494 and Argenta is good.

No Name

*Northwest Area Planning Initiatives – Open House #1 Comments from participants
July 27th, 2005*

General

- All figures have grossly overstated developable land and potential future units.

Specific

- Why is the “proposed land use” figure 5-5 different than the existing comprehensive plan adapted in the past 5 years?
- Kladek-Lund-Dahlsin properties moved from maximum 6 units/acre to maximum 12 units/acre?

No Name

General

- No costs associated with sizing any pipes to service excluded (350 acres) 4 neighborhood should be included. Every property should pay its fair share or pass on future development.

Specific

- What will stop additional properties from “opting out” of this process as the 4 excluded neighborhoods have done.
- Can City Council legally stop others from joining in?

James E. Peltier

7250 Argenta Trail, Inver Grove Heights 55077
651.227.3099

General

- The dash for development by some city council members and city managers is of concern to many of the residents of the NW area. Why? Because the “benefits to the landowner” they claim to accomplish are in fact benefits to the developers. Granted there are people desiring development; they are a minority compared to the residents of the area and the majority landowners who, in spite of opposition, are being over looked. These people who have lived in this area and have a vested interest should be respected in their contribution to an outcome, which allows their existence in this area. Factors here being assessment, suitability, and proposed density of land.. and best-use questions that have never been answered.

Specific

- A specific issue of my concern is re-designation of my land to retail commercial without any discussion was done to accommodate a study that again needed to be done “in a hurry”. On a project this size, it does not seem rational to make such designations that, if not accurate, would impact the study itself. In conclusion, I will take the liberty of speaking for many of my neighbors and myself when I say all parties should attempt to achieve better communications and cohesion to accomplish a mutually beneficial outcome. The alternative would be the usual “corn row” Inver Grove over development, which already encompasses most of the new areas developed.



Minnesota Department of Natural Resources

Natural Heritage and Nongame Research Program, Box 25
500 Lafayette Road

St. Paul, Minnesota 55155-40__
Phone: (651) 296-7863 Fax: (651) 296-1811 E-mail: sarah.hoffmann@dnr.state.mn.us

November 19, 2004

Tom Link
Community Development Director
City of Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, MN 55077-3412

Re: Request for Natural Heritage information for vicinity of proposed Northwest Expansion Area AUAR,
T27N R22W Sections 5-8, 17, 18, Dakota County
NHNRP Contact #: ERDB 19990769-0002

Dear Mr. Link,

The Minnesota Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the area indicated on the map enclosed with your information request. Based on this review, there are 7 known occurrences of rare species or natural communities in the area searched (for details, see enclosed database printout and explanation of selected fields). However, based on the nature and location of the proposed project I do not believe it will affect any known occurrences of protected species or natural communities.

The Natural Heritage database is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Department of Natural Resources. It is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, natural communities, and other natural features. Its purpose is to foster better understanding and protection of these features.

Because our information is not based on a comprehensive inventory, there may be rare or otherwise significant natural features in the state that are not represented in the database. A county-by-county survey of rare natural features is now underway, and has been completed for Dakota County. Our information about natural communities is, therefore, quite thorough for that county. However, because survey work for rare plants and animals is less exhaustive, and because there has not been an on-site survey of all areas of the county, ecologically significant features for which we have no records may exist on the project area.

The enclosed results of the database search are provided in two formats: index and full record. To control the release of locational information which might result in the damage or destruction of a rare element, both printout formats are copyrighted.

The index provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an Environmental Assessment Worksheet, municipal natural resource plan, or report compiled by your company for the project listed above. If you wish to reproduce the index for any other purpose, please contact me to request written permission. The full-record printout includes more detailed locational information, and is for your personal use only. If you wish to reprint the full-record printouts for any purpose, please contact me to request written permission.

Please be aware that review by the Natural Heritage and Nongame Research Program focuses only on *rare natural features*. It does not constitute review or approval by the Department of Natural Resources as a whole. If you require further information on the environmental review process for other natural

DNR Information: 651-296-6157 • 1-888-646-6367 • TTY: 651-296-5484 • 1-800-657-3929



resource-related issues, you may contact your Regional Environmental Assessment Ecologist, Wayne Barstad, at (651) 772-7940. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sarah D. Hoffmann".

Sarah D. Hoffmann
Endangered Species Environmental Review Coordinator

encl: Database search results
Rare Feature Database Print-Outs: An Explanation of Fields

NORTHWEST EXPANSION AREA AUAR
 T27N R22W SECS 5-8, 17,18, DAKOTA COUNTY
 MNDNR, Natural Heritage and Nongame Research Program

Minnesota Natural Heritage Database
 Element Occurrence Records

MANAGED AREA

TWP	RNG	PRIMARY SECTION	FED STATUS	MN STATUS	S RANK	ELEMENT and OCCURRENCE NUMBER
T027N	R22W	05	NON	NON		LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #57
T027N	R22W	06	NON	NON		LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #54
T027N	R22W	06	NON	NON		LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #55
T027N	R22W	07	NON	NON		LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #56
T027N	R22W	08	NON	NON		LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #58
T027N	R22W	20			S2	OAK FOREST (SOUTHEAST) MESIC SUBTYPE #295
T028N	R22W	33	NON	NON		TRIODANIS LEPTOCARPA (VENUS' LOOKING-GLASS) #1

RECORDS PRINTED = 7

Rare Features Database Print-outs: An Explanation of Fields

The Rare Features database is part of the Natural Heritage Information System, and is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Minnesota Department of Natural Resources (DNR).

Please note that the print-outs are copyrighted and may not be reproduced without permission

Field Name: [Full (non-abbreviated) field name, if different]. Further explanation of field.

-C-

CBS Site: [County Biological Survey site number]. In each county, the numbering system begins with 1.

CLASS: A code which classifies features by broad taxonomic group: NC = natural community; SA = special animal; SP = special plant; GP = geologic process; GT = geologic time; OT = other (e.g. colonial waterbird colonies, bat hibernacula).

Cty: [County]. Minnesota counties (ordered alphabetically) are numbered from 1 (Aitkin) to 87 (Yellow Medicine).

CURRENT STATUS: Present protection status, from 0 (owner is not aware of record) to 9 (dedicated as a Scientific and Natural Area).

-D-

DNR Region: 1=NW, 2=NE, 3=E Central, 4=SW, 5=SE, 6= Minneapolis/St. Paul Metro.

DNR Quad: [DNR Quadrangle code]. DNR-assigned code of the U.S. Geologic Survey topographic map on which the rare feature occurs.

-E-

ELEMENT or **Element:** See "Element Name (Common Name)"

Element Name (Common Name): The name of the rare feature. For plant and animal species records, this field holds the scientific name, followed by the common name in parentheses; for all other elements (such as plant communities, which have no scientific name) it is solely the element name.

EO RANK: [Element Occurrence Rank]. An evaluation of the quality and condition of natural communities from A (highest) to D (lowest).

EO Size: [Element Occurrence Size]. The size in acres (often estimated) of natural communities.

-F-

FED STATUS: [Federal Status]. Status of species under the Federal Endangered Species Law: LE=endangered, LT=threatened, C=species which have been proposed for federal listing.

Federal Status: See "FED STATUS"

Forestry District: The Minnesota DNR's Division of Forestry district number.

-G-

GLOBAL RANK: The abundance of an element globally, from G1 (critically imperiled due to extreme rarity on a world-wide basis) to G5 (demonstrably secure, though perhaps rare in parts of its range). Global ranks are determined by the Conservation Science Division of The Nature Conservancy.

-I-

INTENDED STATUS: Desired protection status. See also "CURRENT STATUS." If a complete list of protection status codes is needed, please contact the Natural Heritage Program.

-L-

LAST OBSERVED or **Last Observed Date** or **Last Observation:** Date of the most recent record of the element at the location.

Latitude: The location at which the occurrence is mapped on Natural Heritage Program maps. NOTE: There are various levels of precision in the original information, but this is not reflected in the latitude/longitude data. For some of the data, particularly historical records, it was not possible to determine exactly where the original observation was made (e.g. "Fort Snelling", or "the south shore of Lake Owasso"). Thus the latitude/longitude reflect the mapped location, and not necessarily the observation location.

Legal: Township, range and section numbers.

Long: [Longitude]. See NOTE under "Latitude"

-M-

MANAGED AREA or **Managed Area(s):** Name of the federally, state, locally, or privately managed park, forest, preserve, etc., containing the occurrence, if any. If this field is blank, the element probably occurs on private land. If "(STATUTORY BOUNDARY)" occurs after the name of a managed area, the location may be a private inholding within the statutory boundary of a state forest or park.

Map Sym: [Map Symbol].

MN STATUS: [Minnesota Status]. Legal status of plant and animal species under the Minnesota endangered species law:

END=endangered, THR=threatened, SPC=special concern, NON=no legal status, but tracked. This field is blank for natural communities and colonial waterbird nesting sites, which have no legal status in Minnesota, but are tracked by the database.

-N-

NC Rank: [Natural Community Rank].

-O-

Occ #: [Occurrence Number]. The occurrence number, in combination with the element name, uniquely identifies each record.

OCCURRENCE NUMBER: See "Occ #"

OF OCCURS: The number of records existent in the database for each element within the area searched.

Ownership: Indicates whether the site is publicly or privately owned; for publicly owned land, the agency with management responsibility is listed.

-P-

Precision: Precision of locational information of occurrence: C (confirmed) = known within 1/4 mile radius, U (unconfirmed) = known within 1/2 mile, N (non-specific) = known within 1 mile, G (general) = occurs within the general region, X (unmappable)=location is unmappable on USGS topographic quadrangles (often known only to the nearest county), O (obscure/gone)=element no longer exists at the location.

PS: [Primary Section]. The section containing all or the greatest part of the occurrence.

-Q-

Quad Map: See "DNR Quad"

-R-

Rec #: [Record number].

RNG or Rng: [Range number].

-S-

SECTION or Section: [Section number(s)]. Some records are given only to the nearest section (s), but most are given to the nearest quarter-section or quarter-quarter-section (e.g., SWNW32 denotes the SW1/4 of the NW1/4 of section 32). A "0" is used as a place holder when a half-section is specified (e.g., 0N03 refers to the north 1/2 of section 3). When an occurrence crosses section boundaries, both sections are listed, without punctuation (e.g., the NE1/4 of section 19 and NW1/4 of section 20 is displayed as "NE19NW20").

Site: A name which refers to the geographic area within which the occurrence lies. If no name for the area exists (a locally used name, for example), one is assigned by the County Biological Survey or the Natural Heritage Program.

Source: The collector or observer of the rare feature occurrence.

RANK: [State Rank]. A rank assigned to the natural community type which reflects the known extent and condition of that community in Minnesota. Ranks range from 1 (in greatest need of conservation action in the state) to 5 (secure under present conditions). A "?" following a rank indicates little information is available to rank the community. Communities for which information is especially scarce are given a "U", for "rank undetermined". The ranks do not represent a legal status. They are used by the Minnesota Department of Natural Resources to set priorities for research, inventory and conservation planning. The state ranks are updated as inventory information becomes available.

State Status: See "MN STATUS"

-T-

TWP or Twp: [Township number].

-V-

Verification: A reflection of the reliability of the information on which the record is based. The highest level of reliability is "verified," which usually indicates a collection was made or, in the case of bird records, nesting was observed. Plant records based on collections made before 1970 are unverified.

Voucher: The museum or herbarium where specimens are maintained, and the accession number assigned by the repository. In the case of bald eagles, this is the breeding area number.

-W-

Wildlife Area: The Minnesota DNR's Division of Wildlife administrative number.

Data Security

Locations of some rare features must be treated as sensitive information because widespread knowledge of these locations could result in harm to the rare features. For example, wildflowers such as orchids and economically valuable plants such as ginseng are vulnerable to exploitation by collectors; other species, such as bald eagles, are sensitive to disturbance by observers. For this reason, we prefer that publications not identify the precise locations of vulnerable species. We suggest describing the location only to the nearest section. If this is not acceptable for your purposes, please call and discuss this issue with the Environmental Review Specialist for the Natural Heritage and Nongame Research Program at 651/296-7863.

T027N R22W 05NWSW08 DAKOTA COUNTY, MN

Element: LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #58

State Status: No Legal Status

EO Size: EO Rank:

Site: INVER GROVE HEIGHTS 8

Ownership: Private

Managed Area (s): not managed or no record

Source: BOCKENSTEDT, P. (SIGHT RECORD)

APPROX 75 PLANTS OBS W/MANY FRUITING INDIVIDUALS, UNDER SHRUBS APPROX 20 M NW OF NW CORNER OF POLE BUILDING & ABOUT 5 M FROM EDGE OF DRIVEWAY. SITE WAS VERY DRY & NEARLY LEVEL W/EXCESSIVELY DRAINED SOILS. (MOST PLANTS SEVERELY WATER STRESSED @ TIME OF VISIT.) HABITAT CONSISTED OF SHRUBBY CANOPY OVER NON NATIVE GRASSES; DOMINANT SHRUB WAS RHUS GLABRA; PATCHY GROUND COVER WITH MOSSES COMMON. POPULATION LOCATED IN AREA APPROX 15 M IN DIAMETER.

Last Observed Date: 14 July 1999

DNR Region: 6

Wildlife Area: 610

Forestry District: 612

Quad Map: INVER GROVE HEIGHTS (S17D)

Latitude: 44 50' 13" Long: 93 4' 57"

Precision: within 0.25 mile, confirmed

Voucher:

Verification: sight or sound rec.

T027N R22W NEWZONE20 DAKOTA COUNTY, MN

Element: OAK FOREST (SOUTHEAST) MESIC SUBTYPE #295

S Rank: S2

EO Size:

Site: MARCOTT LAKES (33 acres)

Ownership: Private

Managed Area (s): not managed or no record

Source: FUGE, E.L. (CO BIOL SURVEY 1993)

DISTURBED OAK FOREST DOM BY QUERCUS RUBRA, Q. ALBA & TILIA AMERICANA, 20-30M HIGH & AVERAGE DBH 50-70CM. DIVERSITY OF SHRUB & HERB LAYER VARIES FROM MODERATE TO LOW WITH RIBES MISSOURIENSE, SAMBUCUS PUBENS, APHYLIUM ANGUSTUM & CIRCAEA LUTETIANA. ASPECTS OF PAST GRAZING & CUTTING RANGE IN DEGREE & ARE PATCHY ACROSS COMMUNITY. ON STEEP NE FACING SLOPE ALONG CHAIN OF LAKES & WETLANDS WITH LOAMY SOILS OF TWIN CITIES FORMATION GEOMORPHIC REGION.

Last Observed Date: 27 July 1993

DNR Region: 6

Wildlife Area: 610

Forestry District: 612

Quad Map: INVER GROVE HEIGHTS (S17D)

Latitude: 44 49' 0" Long: 93 4' 18"

Precision: approx. boundaries have not been determined

Voucher:

Verification: verified

T028N R22W 33 DAKOTA COUNTY, MN

Element: TRIODANIS LEPTOCARPA (VENUS' LOOKING-GLASS) #1

State Status: No Legal Status

EO Size:

Site: SOUTH ST. PAUL 33

Ownership: Owner unknown

Managed Area (s): not managed or no record

Source: MOORE, J.W. AND MOORE, M.F. (10760)

SMALL MORANIC HILLS 0.25 MI W 5TH AVE & JUST S CHURCH ST, SOUTH ST. PAUL, PREV COLL: (10201), 412167 MIN, 6/26/1938 IN SAME HABITAT.

Last Observed Date: 25 June 1939

DNR Region: 6

Wildlife Area: 610

Forestry District: 612

Quad Map: INVER GROVE HEIGHTS (S17D)

Latitude: 44 52' 3" Long: 93 3' 9"

Precision: within 0.50 mile

Voucher: 412198 MIN

Verification: verified

T027N R22W SWSE05 DAKOTA COUNTY, MN

Element: LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #57

State Status: No Legal Status

EO Size:

EO Rank:

Site: INVER GROVE HEIGHTS 5

Ownership: Private

Managed Area(s): not managed or no record

Source: BOCKENSTEDT, P. (SIGHT RECORD)

PLANTS OBS APPROX 50 M NNW OF STREET INTERSECTION AT BASE OF SLOPE NEAR HIKING TRAIL BUILT BY LOCAL HOMEOWNER. ON GENTLE WEST-FACING SLOPE, ^ 75% CANOPY COVER W/MODERATELY MOIST SANDY SOIL. PART OF A DISTURBED FOREST W/CANOPY DOMINATED BY QUERCUS ELLIPSOIDALIS, POPULUS TREMULOIDES, POPULUS DELTOIDES & OTHERS; SHRUB LAYER MODERATELY THICK & DOMINATED BY RHAMNUS CATHARTICA; GROUND LAYER SPARSE & MOSTLY DOMINATED BY SPECIES INDICATIVE OF DISTURBANCE.

Last Observed Date: 14 July 1999

DNR Region: 6

Wildlife Area: 610

Forestry District: 612

Quad Map: INVER GROVE HEIGHTS (S17D)

Latitude: 44 50' 56" Long: 93 4' 29"

Precision: within 0.25 mile, confirmed

Voucher:

Verification: sight or sound rec.

T027N R22W MNNE06 DAKOTA COUNTY, MN

Element: LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #54

State Status: No Legal Status

EO Size:

EO Rank:

Site: INVER GROVE HEIGHTS 6

Ownership: Private

Managed Area(s): not managed or no record

Source: BOCKENSTEDT, P. (SIGHT RECORD)

LESS THAN 10 SEEN ON WELL-DRAINED, GENTLY WEST-FACING SLOPE OF RETIRED PASTURE DOMINATED BY NON-NATIVE GRASSES, ESPECIALLY POA PRATENSIS. SCATTERED CANOPY OF QUERCUS MACROCARPA & Q. ELLIPSOIDALIS. AREA HEAVILY INVADED BY BRUSH, ESPECIALLY RHUS GLABRA, ZANTHOXYLUM AMERICANUM. PLANTS WERE APPROX 20-30 METERS NE OF WETLAND & 50 METERS NW OF MNDOT FENCE FOR I-94.

Last Observed Date: 14 July 1999

DNR Region: 6

Wildlife Area: 610

Forestry District: 612

Quad Map: INVER GROVE HEIGHTS (S17D)

Latitude: 44 51' 40" Long: 93 5' 44"

Precision: within 0.25 mile, confirmed

Voucher:

Verification: sight or sound rec.

T027N R22W NESMS06 DAKOTA COUNTY, MN

Element: LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #55

State Status: No Legal Status

EO Size:

EO Rank:

Site: INVER GROVE HEIGHTS 6

Ownership: Private

Managed Area(s): not managed or no record

Source: BOCKENSTEDT, P. (SIGHT RECORD)

PLANTS OBSERVED ON GENTLY SSE FACING SLOPE - MODERATELY WELL DRAINED & SANDY SOIL OF RETIRED PASTURE & OAK WOODLAND BRUSHLAND W/BROKEN CANOPY DOMINATED BY QUERCUS MACROCARPA & W. ELLIPSOIDALIS; SHRUB LAYER MODERATELY THICK TO THICK & DOMINATED BY RHAMNUS CATHARTICA, RHUS GLABRA & CERNUS FOENICINA.

Last Observed Date: 14 July 1999

DNR Region: 6

Wildlife Area: 610

Forestry District: 612

Quad Map: INVER GROVE HEIGHTS (S17D)

Latitude: 44 51' 1" Long: 93 5' 30"

Precision: within 0.25 mile, confirmed

Voucher:

Verification: sight or sound rec.

T027N R22W SENE07 DAKOTA COUNTY, MN

Element: LIPARIS LILIFOLIA (LILIA-LEAVED TWAYBLADE) #56

State Status: No Legal Status

EO Size:

EO Rank:

Site: INVER GROVE HEIGHTS 7

Ownership: Private

Managed Area(s): not managed or no record

Source: BOCKENSTEDT, P. (SIGHT RECORD)

5 PLANTS SEEN IN OLD FENCEROW JUST SW OF RESIDENCE (UPHILL) & NE OF OUT BUILDING (ABOUT 1/2 WAY BETWEEN). HABITAT WAS DRY EAST SOUTHEAST-FACING SLOPE OF WELL DRAINED SOIL W/FENCEROW DOMINATED BY NON-NATIVE GRASSES, ESPECIALLY POA PRATENSIS. SHRUBS & SMALL TREES PRESENT INCLUDE RHUS GLABRA, PRUNUS SEROTENA & RUBUS SP.

Last Observed Date: 14 July 1999

DNR Region: 6

Wildlife Area: 610

Forestry District: 612

Quad Map: INVER GROVE HEIGHTS (S17D)

Latitude: 44 50' 38" Long: 93 5' 17"

Precision: within 0.25 mile, confirmed

Voucher:

Verification: sight or sound rec.

Final Mitigation Plan Update– Inver Grove Heights Northwest Expansion Area AUAR

The final AUAR document must include an explicit mitigation plan. At the RGU’s option, a draft plan may be included in the draft AUAR document; whether or not there is a separate item for a draft mitigation plan, proposed mitigation must be addressed through the document.

1.0 Introduction

This comprehensive environmental protection plan has been prepared as a part of the Inver Grove Heights Northwest Expansion Area Alternative Urban Areawide Review (AUAR). This plan is intended to satisfy the AUAR rules that require preparation of a Mitigation Plan that specifies measures or procedures that will be used to avoid, minimize, or mitigate for potential impacts of development of the AUAR area. Finally, the plan specifies legal and financial measures and institutional arrangements that will assure that the mitigation measures recommended in the plan are implemented. The mitigation plan will be used by the City of Inver Grove Heights to guide development of the Northwest Expansion Area through the avoidance, minimization, and/or mitigation of environmental impacts.

The plan is not intended to modify the regulatory agencies’ responsibilities for implementing their respective regulatory programs, or to create additional regulatory requirements. This mitigation plan is not intended to deprive or divest any person of any use of property or right to which they are entitled by law.

Traffic—Section 21. The Final Mitigation Plan has been revised to include mitigation recommendations from the Supplemental Traffic Analysis completed in response to comments received on the Draft AUAR. The Supplemental Analysis is included in the Final AUAR document. The Final Mitigation Plan for Traffic (Section 21) includes two options: If the proposed inter-jurisdictional planning process for the Dakota County area that includes the Northwest Expansion Area determines that two new interchanges will be developed at CSAH 63 & Interstate 494, and at CSAH 63 & TH 55, Option 1—Mitigation with New Interchanges will be implemented. If the planning process determines that these interchanges will not be developed, Option 2—Mitigation without New Interchanges will be implemented.

NOTE: SECTION NUMBERS IN THE MITIGATION PLAN CORRESPOND TO THE SECTION NUMBERS IN THE AUAR REPORT.

10. Cover Types--Natural Communities

The City of Inver Grove Heights has completed several significant planning studies in the Northwest Expansion Area. The City completed a Natural Resources Inventory and Management Plan for the area in 2004. This plan was used in developing the Surface Water Management Plan for the area, also completed in 2004. Both of these plans have heavily influenced the Land Use Plan proposed for the Northwest Area. The City worked with a Task Force of local residents in developing all three plans.

The results of the Natural Resources Inventory and Surface Water Plan were used extensively to shape the proposed land uses and patterns for the area, along with existing roadway infrastructure. The Northwest Expansion Area is an area of rolling topography, with closed basins that do not have outlets at normal water levels. The area also has a variety of good and high quality upland and wetland natural resources that the City and its residents would like to protect for the long term. The City and its Northwest Area Task Force have determined that the development plan for the area will use a variety of low-impact development techniques and preservation of existing natural resources and regional basins to manage storm water in the area. The land use plan therefore features relatively large green spaces and corridors to allow for storm water infiltration and collection in the regional basin areas.

The Natural Resources Inventory and Management Plan for the Northwest Expansion Area includes general recommendations for management and restoration of each natural community type, as well as specific recommendations for protection, management and restoration of the natural areas in study area. Implementation of the recommendations of the Natural Resources Management Plan, Surface Water Management Plan, Land Use Plan, and environmental ordinances designed to implement these plans form the core strategies for protection of natural areas and natural resources in the Northwest Expansion Area.

Goal 1: Protect and restore the higher quality natural resources in the Northwest Expansion Area, and manage other natural resource areas to avoid, minimize or mitigate for potential impacts of development in the Area.

Protection Strategies:

1. Implement the Land Use Plan and Surface Water Management Plan for the AUAR study area. These plans recommend protection of large areas of the existing upland and wetland open spaces. The highest level of protection is proposed for the upland and wetland natural communities in the Manage 1 and Manage 2 Classes (Figure 10.1), and areas identified for storm water infiltration (Figure 17.1). The protection of infiltration areas is discussed in Section 17. Water Quality—Surface Water Runoff. The City anticipates adoption of ordinances to implement these plans before development occurs in the AUAR area.
2. Adopt a Zoning Ordinance that provides for protection of higher quality natural community areas.
 - The City is currently developing a new Zoning Ordinance, called *Subdivision 37-Northwest Area Planned Unit Development Overlay District*. The draft ordinance proposes the following:
 - 20% of each development area be set aside as permanent open space,
 - Half of this open space area be left in its natural state
 - The remaining half of this open space area may be used for passive or active recreation, or the location of storm water management facilities

- Priorities for design of the remaining developable areas (80%) include
 - Avoiding impacts to areas identified as Manage 1 and Manage 2 communities in the Natural Resource Inventory and Management Plan
 - Avoiding impacts to identified corridors, buffers and storm water management areas
 - Avoiding impacts to identified park and trail areas
- The ordinance will provide a “density bonus” on developable portions of the property, so that the landowner/developer can develop the total number of units within the developable portion of the site that would have been allowed on the property before exclusions for natural areas, corridors, and parks/trails.
- Prior to adoption of the final zoning and subdivision ordinances for the area, the City will conduct public hearings, gather more information and seek input from the community, the landowners and potential developers. As a result of this investigative process, the ordinances as adopted may vary from the draft ordinance, and the City may also adopt alternate means to achieve the proposed mitigation. However, the goals and objectives relating to mitigation and the desired quality of development will remain substantially similar to those envisioned by the draft ordinance.

3. Implement the recommendations of The Natural Resource Inventory and Management Plan to protect and restore natural community areas in the Northwest Expansion Area.

This plan makes general and specific recommendations to reduce the impact of development in the Northwest Expansion Area, including the following:

- Create and maintain buffer strips around natural resource areas
- Avoid impacts to high quality sites (identified as Manage 1 and 2 areas in the Plan)—preserve these areas and if needed, redirect unavoidable impacts to lowest quality areas
- Minimize the area of grading or clearing in natural communities to develop buildings, lots, and other structures
- Implement techniques to reduce the amount of phosphorus entering wetlands and other water bodies.
- Implement strategies to manage and restore natural community areas identified in the plan
- Several sites within the City are well-suited for use as wetland restoration or banking sites. This includes sites containing degraded wetlands, or in some cases, sites with proper hydrology and soils for restoration as wetlands. These sites should be considered for wetland restoration or banking sites as the City implements its surface water management plan.
- Many of the forest/woodland areas within the city lack sufficient groundcover to prevent sheet erosion. Actively eroding areas degrade the quality of the woodland as well as wetlands downstream. The City and prospective developers should identify areas of potential sheet erosion and restore groundcover in these areas to prevent erosion and sedimentation.
- Harmon Park and the Inver Wood Golf Course represent opportunities to restore prairie and savanna. The City should seek grant funds or willing partners to restore natural communities on this site.
- Protect the Greenway corridors identified in the Natural Resource Inventory and Management Plan, and use the corridors to provide trails and to implement the Surface Water Management Plan where this is compatible with the natural resources in the corridors.
- Identify and implement strategies to manage and restore some significant resources within the city, including the Argenta Trail wetlands, Marcott Chain of Lakes and associated upland areas, Nichols’ Sedge Meadow, Kladek’s

Prairie, and several other natural areas identified in Section 7.4 of the Management Plan.

4. Implement the City's Stormwater, Wetland, and Tree Preservation ordinances to protect natural communities in the Northwest Expansion Area. These ordinances are currently being revised by the City to reflect the Surface Water Management Plan and Natural Resources Inventory and Management Plan. The new ordinances are scheduled to be completed and adopted before development occurs in the Expansion Area.

Responsible Parties: City of Inver Grove Heights and private developers.

Regulatory Program: City Natural Resource Inventory and Management Plan, Surface Water Management Plan, Land Use and Comprehensive Plan, Subdivision Ordinance, and Environmental Ordinances.

Implementation Time Frame: Protection and restoration should occur as development plans are developed, reviewed, and implemented.

Mitigation Plan Update:

No change in the natural resources inventory with this update. The City has implemented the following mitigation measures:

- **The City of Inver Grove Heights adopted the Northwest Area Overlay Zoning Ordinance (Section 515.80, Subdivision 39) in May 2007. The Ordinance requires the preservation of significant natural resources through open space regulations.**
- **The City of Inver Grove Heights adopted a revised Tree Protection and Preservation Ordinance (Section 515.90, Subdivision 28) in June 2007.**
- **The City of Inver Grove Heights adopted the Northwest Area Stormwater Manual, dated May 29, 2007.**

11. Fish, Wildlife and Sensitive Resources

Protection of habitat areas will help to protect wildlife resources in the AUAR area. The protection of the large wetland and associated woodland areas on site will avoid, minimize, and mitigate for impacts to fish and wildlife habitat and sensitive resources if present on the site.

Goal 1. Protect the wetland and woodland habitats in the AUAR Area through strategies identified in Section 10 above and Section 17.

Protection Strategy

1. The City will implement the recommendations of its Natural Resources Inventory and Management Plan, and the recommendations included in this Mitigation Plan in Section 10—Cover Types to protect Fish and Wildlife Habitat in the Northwest Expansion Area.

12. Physical Impacts on Water Resources

Proposed development in the project area has the potential to impact the wetlands in the area. The potential impacts of development on these resources are detailed and quantified in Sections 10 and 17. The City's Natural Resource Inventory and Management Plan, and Surface Water

Management Plan have identified methods to avoid or minimize impacts to wetlands in the project area and water resources downstream are summarized below.

The City will implement these standards along with standards adopted in the Surface Water Management Plan (discussed in Section 17) for wetlands in the AUAR area.

Goal 1. Protect wetland resources in the project area and downstream to assure no net loss of these resources by avoiding and minimizing wetland impacts when feasible, and mitigating for unavoidable impacts.

Protection Strategies

1. Implement the recommendations of the Surface Water Management Plan and the proposed Subdivision 37—Northwest Area Planned Unit Development Overlay District for the Northwest Expansion Area for managing the potential impacts of runoff quantity and quality to water bodies in the AUAR area (described in Section 17 of the AUAR analysis and in Section 17 of the Mitigation Plan. Prior to adoption of the final zoning and subdivision ordinances for the area, the City will conduct public hearings, gather more information and seek input from the community, the landowners and potential developers. As a result of this investigative process, the ordinances as adopted may vary from the draft ordinance, and the City may also adopt alternate means to achieve the proposed mitigation. However, the goals and objectives relating to mitigation and the desired quality of development will remain substantially similar to those envisioned by the draft ordinance.
2. Wetlands in Gun Club Lake Watershed (not included in the Surface Water Plan for the Northwest Expansion Area) that potentially need to be mitigated for stormwater bounce should be identified through Hydrologic &Hydraulic modeling. This could be completed on a site-by-site basis, or a comprehensive effort that includes the entire area. Protection requirements for wetlands in this watershed are those included in the Natural Resource Inventory and Management Plan. Combinations of conventional and alternative stormwater systems can be used to mitigate excessive stormwater bounce in wetlands in the Gun Club Lake Watershed, with an emphasis on alternative infiltration methods.
3. Assure no net loss of wetlands in the study area as it develops by protecting existing wetlands or mitigating for wetland losses based on the requirements of the Wetland Conservation Act and the City’s Wetland Ordinance.
4. Implement the recommendations in the Natural Resource Inventory for management of wetlands, including vegetated buffer strips, structural setbacks, stormwater pretreatment requirements, and restoration and management recommendations for specific wetland included in Section 7.4 of the NRI Management Plan.
5. Create and adopt a City Wetland Ordinance, including buffer requirements. This ordinance is scheduled to be updated and adopted before development occurs in the Northwest Expansion Area.
6. Require the use, management, and enforcement of BMP’s to control erosion and sedimentation during and after construction as required by the NPDES construction permit.

Responsible Parties: City of Inver Grove Heights, private developers, and regulatory agencies.

Regulatory Program: Minnesota Wetland Conservation Act, Sections 401 and 404 of the Clean Water Act, Minnesota DNR Protected Waters Program, Northwest Expansion Area Surface Water Management Plan and City Wetland Ordinance, GCLWMO Plan

Implementation Time Frame: Identify potential impacts to wetlands as infrastructure and development plans are created, identify ways to avoid or mitigate impacts as a part of final plans, and implement efforts to avoid or mitigate for impacts as development occurs.

Mitigation Plan Update:

No change in the physical impact in water resources with this update. The City has implemented the following mitigation measures:

- **The City of Inver Grove Heights adopted the Northwest Area Overlay Zoning Ordinance (Section 515.80, Subdivision 39) in May 2007. The Ordinance requires the preservation of significant water resources through open space regulation.**
- **The City of Inver Grove Heights adopted the Northwest Area Stormwater Manual, dated May 29, 2007.**
- **The City of Inver Grove Heights adopted the Hydrologic & Hydraulic modeling study for the Gun Club Lake Watershed in 2007.**

13. *Water Use*

Since the AUAR area has historically been used for farming and rural residences, it is possible that some private wells are located in the project area, the Minnesota Geological Survey's County Well Index for Dakota County identifies well records within the boundary of the project area. Additional unsealed, abandoned wells may be encountered after construction begins.

Goal 1. Protect the quality of ground water in the AUAR area.

Protection Strategies

1. Require that unsealed, abandoned wells are properly sealed and abandoned to meet codes required by the Minnesota Department of Health.

Responsible parties: City of Inver Grove Heights, private developers and property owners

Regulatory program: Minnesota Department of Health

Implementation time frame: As development occurs.

2. The City will work with the Inverwood Golf Course to locate the new municipal supply wells at a sufficient distance from the irrigation well to not interfere with operation of the existing well.

Responsible parties: City of Inver Grove Heights

Regulatory program: None

Implementation time frame: As water supply plan is developed and implemented.

Mitigation Plan Update:

- This update did not perform further research on either existing wells or probable wells. The City of Inver Grove Heights has adopted the completed feasibility study of these improvements, called the Northwest Area Water and Sanitary Extensions Feasibility Report, dated May 2005. The City awarded the first phase of these improvements, Northwest Area Utility Improvements Lift Station R-9.1, in July 2007.
- The City Council approved a consultant contract for the Well Field Development on August 13, 2007.

16. Erosion and Sedimentation

Goal 1. Minimize erosion and sedimentation and impacts on surface waters as development occurs.

Protection strategies:

1. The City will require that developers submit a plan for soil erosion and sediment control during construction and after development as a part of the Preliminary Plat.
2. The City will require that developers minimize erosion and sedimentation by identifying and protecting areas of existing native vegetation to minimize soil exposure and resulting erosion and sedimentation during development, and
3. The City will require the use, management, and enforcement of Best Management Practices (BMP's) to control erosion and sedimentation during and after construction as required by the NPDES construction permit and the City's proposed *Draft Subdivision 37—Northwest Area Planned Unit Development Overlay District Ordinance*.

Responsible Parties: City of Inver Grove Heights, Dakota SWCD, and private developers.

Regulatory Program: City Ordinances, MPCA Best Management Practices, NPDES construction permit, and new City Subdivision and Erosion and Sediment Control ordinances.

Implementation Time Frame: Plan will be submitted with Preliminary Plat, and implemented during development.

Mitigation Plan Update:

- The City of Inver Grove Heights adopted the Northwest Area Overlay Zoning Ordinance (Section 515.80, Subdivision 39) in May 2007. This ordinance has provisions to identify, avoid and protect steep slopes.
- The City of Inver Grove Heights adopted the Northwest Area Stormwater Manual, dated May 29, 2007.

17. Water Quality—Surface Water Runoff

The stormwater management approach laid-out in the AUAR analysis describes an approach driven by the need to protect and preserve the infiltration capacity of the existing natural basins within the

Northwest Expansion Area. These basins, identified in Figure 17.2, are the backbone of the proposed stormwater management system and provide the means to prevent degradation of downstream resources. This approach provides a preliminary framework to allow the City and developers to proceed with some knowledge of the design specifics that will be needed. The City will assure that the developers will design and build the final local drainage and stormwater management system within this overall framework.

Wetlands in GCLWMO that potentially need to be mitigated for stormwater bounce should be identified through Hydrologic & Hydraulic modeling. This could be completed on a site-by-site basis, or a comprehensive effort that includes the entire area. As development impacts other high quality wetlands, the mitigation approach should be the same. Combinations of conventional and alternative stormwater systems can be used to mitigate excessive stormwater bounce, with an emphasis on, and priority given to alternative infiltration methods.

Formally establishing a City controlled O&M program is essential to effectively implementing alternative stormwater management. The following steps are adapted from EPA's recommended steps to establish such a program:

1. Establish a regulatory framework (ordinance or regulations) within which to formalize a cooperative agreement with a homeowner, developer or any other entity, including the City, that will be maintaining an alternative system;
2. Incorporate maintenance into design and construction specifications, including pre-treatment;
3. Identify the mechanism for stable, long-term funding (even if it is the homeowner);
4. Formalize a regular inspection schedule, criteria for departing from the schedule (ex. after a large event or when a problem is evident) and keep a log of inspections;
5. Define triggers for action (ex. 5" of sediment accumulation will trigger action to clean a forebay);
6. Prevent sediment, debris and litter from moving into and accumulating into the system;
7. Make provisions for monitoring (visual or actual sampling) of treatment criteria;
8. Develop a training and education program, possibly with a certification element;
9. If water is not draining down after 4 to 6 days, remove accumulated fine sediments until coarse soils are exposed and replant with raingarden vegetation; and
10. Develop an informational booklet for homeowners on need and role of infiltration rain gardens in neighborhoods

Goal 1. Protect the quality of water resources in the project area and downstream as development occurs in the Northwest Expansion Area.

Protection strategies:

1. The City will adopt *Draft Subd. 37. Northwest Area Planned Unit Development Overlay District* to require that developers use the accompanying stormwater design manual to provide guidance in the selection, design and construction of site specific, alternative stormwater management BMPs and operation and maintenance requirements. Prior to adoption of the final zoning and subdivision ordinances for the area, the City will conduct public hearings, gather more information and seek input from the community, the landowners and potential developers. As a result of this investigative process, the ordinances as adopted may vary from the draft ordinance, and the City may also adopt alternate means to achieve the proposed mitigation. However, the goals and objectives relating to mitigation and the desired quality of development will remain substantially similar to those envisioned by the draft ordinance.

Responsible Parties: City of Inver Grove Heights, property owners and private developers

Regulatory Program: City Ordinance and stormwater design manual

Implementation Time Frame: The City will adopt the overlay district ordinance before development occurs in the Northwest Expansion Area, and enforce the ordinance and stormwater manual as development occurs.

2. City of Inver Grove Heights acquired a Phase II National Pollutant Discharge Elimination System (NPDES) permit in 2003, and adopted a Storm Water Pollution Prevention Program (SWPPP). The City will implement the SWPPP in the Northwest Expansion Area, including but not limited to:
 1. Public education and outreach;
 2. Public participation and involvement;
 3. Illicit discharge, detection and elimination;
 4. Construction site runoff control;
 5. Post-construction site runoff control; and
 6. Pollution prevention/good housekeeping

Responsible Parties: City of Inver Grove Heights, MPCA

Regulatory Program: NPDES permit and SWPPP

Implementation Time Frame: The City will implement the SWPPP as development occurs in the Northwest Expansion Area.

3. The City will implement the recommendations in the Natural Resource Inventory and Management Plan for the Northwest Expansion Area to protect wetlands from the impacts of storm water. Wetlands in Gun Club Lake Watershed (not included in the Surface Water Plan for the Northwest Expansion Area) that potentially need to be mitigated for stormwater bounce should be identified through Hydrolic & Hydrologic modeling. This could be completed on a site-by-site basis, or a comprehensive effort that includes the entire area. As development impacts other high quality wetlands, the mitigation approach should be the same. Combinations of conventional and alternative stormwater systems can be used to mitigate excessive stormwater bounce in the Gun Club Lake Watershed, with an emphasis on alternative infiltration methods.

Responsible Parties: City of Inver Grove Heights and GCLWO

Regulatory Program: Surface Water Management Plans for Northwest Expansion Area and GCLMO

Implementation Time Frame: As development occurs in the Northwest Expansion Area.

Mitigation Plan Update:

No change to the stormwater plan is anticipated due to the change in landuse. The hydrologic modeling completed for the AUAR used maximum impervious surface cover to account for different development densities. Question #6 of the AUAR defines maximum impervious surface coverage for both commercial and industrial as 70%.

At this time many of the stormwater recommendations set forth in the original document have passed into city ordinance under Section 39 of the Inver Grove Heights Northwest Area Overlay Zoning Ordinance. The stormwater ordinance requires the preservation of ponding and infiltration areas through the open space regulation. Stormwater manual adopted May 29, 2007.

The City of Inver Grove Heights adopted the Hydrologic & Hydraulic modeling study for the Gun Club Lake Watershed in 2007.

18. *Water Quality—Wastewaters*

Goal 1. Avoid or mitigate impacts to proposed infiltration basins and to natural areas identified in the City’s Natural Resource Inventory as construction of infrastructure systems occurs in the Northwest Expansion Area.

Protection Strategies

1. Align infrastructure routes and design sanitary sewer and water facilities to avoid impacts to the regional infiltration areas identified in the City’s Surface Water Management Plan. If sanitary sewer infrastructure must be constructed in or near smaller “local” basins, impacts will be limited to the smallest possible area, and to the sides of the basins, to preserve the infiltration capacity of the bottom areas of the basins.
2. Align infrastructure routes and design sanitary sewer and water facilities to avoid impacts to the high quality natural resource areas identified in the City’s Natural Resource Inventory and Management Plan (the areas identified as Manage 1 and Manage 2 areas). Where Manage 3 and Manage 4 areas cannot be avoided, construction practices will minimize impacts to the Manage 3 and Manage 4 areas, and restore these areas as needed.

Responsible Parties: City of Inver Grove Heights

Regulatory Program: Natural Resource Inventory and Management Plan, Infrastructure plans, and Surface Water Management Plans for Northwest Expansion Area

Implementation Time Frame: As infrastructure plans are developed and implemented in the Northwest Expansion Area.

Mitigation Plan Update:

With the exception of a minor increase in non-residential wastewater flow of 0.006 MGD, and an anticipated reduction in wastewater flow due to a reduction in the total number of dwelling units, wastewater does not change with this update.

The City of Inver Grove Heights has adopted the completed a feasibility study of these improvements, called the Northwest Area Water and Sanitary Extensions Feasibility Report, dated May 2005. The City awarded the first phase of these improvements, Northwest Area Utility Improvements Lift Station R-9.1, in July 2007.

20. *Solid Waste; Hazardous Waste; Storage Tanks*

Goal 1. Complete investigations and plans as needed to prevent potential contamination from solid and hazardous waste as development occurs in the Northwest Expansion Area.

Protection Strategies

1. Past and present land uses have resulted in disposals of solid and hazardous wastes and release of contaminants in the AUAR area that may impact public health and safety and the environment. The City will work with project developers to identify sites of potential contamination, and to develop a contingency plan in case contaminated soil and/or groundwater are encountered during site development.
2. It should be noted that additional disposals and releases could also occur between the time of final AUAR approval and actual development plans for the site. In light of this reality, it seems prudent to revisit the issue of potential contamination during the site development process. Typically, a Phase I environmental site assessment (Phase I ESA) would be required by a lender in conjunction with a property transaction where some type of financial assistance (i.e.; loan) is being sought. The Phase I ESA would presumably identify any potential site contamination concerns that exist at that time, allowing the issue to be resolved prior to construction.

Responsible Parties: City of Inver Grove Heights, developers

Regulatory Program: State and Federal Rules, County Ordinance 100 regarding closure of dump sites

Implementation Time Frame: As site plans are developed and development is implemented in the AUAR area.

21. *Traffic*

GOAL 1. Cooperate with other cities and agencies in the Dakota County area in a regional, multi-jurisdictional study that will determine needs for new interstate and/or highway interchanges and other traffic system improvements to serve the growth occurring in Cities in this area.

The outcome of the multi-jurisdictional study will determine whether the strategies listed below in Option 1 (With 2 New Interchanges) or Option 2 (Without New Interchanges) will be implemented.

Option 1. Develop infrastructure and manage traffic to safely accommodate development planned for the Northwest Expansion Area. This option Includes development of two new interchanges at CSAH 26 & Interstate 494, and CSAH 26 and TH 55.

Protection Strategies

The corridors and intersections were re-examined with the projected traffic to determine infrastructure improvements that may be needed to maintain adequate traffic operations. Based on this analysis, it is recommended that the four primary roads be improved to accommodate future growth. Projected ADT volumes on CR 63 suggest a five- or six-lane roadway may be needed from the assumed I-494 interchange to the proposed TH 55 interchange. The exact number of lanes will depend upon the number and type of access provided along the corridor. South of TH 55, CR 63 is recommended to provide four-lanes for through traffic. TH 3 should also be widened to provide four-lanes along its entire length in the study area. The projected daily traffic volumes on CR 73 are at the edge of a LOS D for a two-lane collector roadway and may need to provide three-lanes depending upon the number and type of access. If proper access control is maintained, it is likely that CR 73 could provide satisfactory traffic operations as a two-lane roadway. CR 26 is recommended to provide four-lanes for through traffic, except between CR 63 and TH 3. In that section, projected ADT volumes suggest a five- or six-lane roadway will be required, depending upon the number and type of access along that roadway section. Table 21.4 shows the recommended number of lanes based on 2025 ADT volumes.

Table 21.4 2025 Lane Recommendations Option 1

Road	Segment	2025 ADT Volume	Recommended Number of Lanes
CR 63 (Argenta Trail)	North of CR 26, South of I-494	29,575	5/6*
	South of CR 26, North of TH 55	26,700	5/6*
	South of TH 55	20,950	4
TH 3 (S. Robert Trail)	North of CR 26	21,250	4
	South of CR 26	19,925	4
	South of TH 55	18,650	4
CR 73 (Babcock Trail)	North of CR 26	8,850	2/3*
	South of CR 26	9,200	2/3*
CR 26 (70th Street)	West of CR 63	20,850	4
	East of CR 63, West of TH 3	30,225	5/6*
	West of TH 3, East of CR 73	25,175	4
	East of CR 73	17,700	4

* Number of lanes will depend on number and type of roadway access points.

Analyses of the 2025 a.m. and p.m. peak hour projections at the study intersections determined recommendations for the lane geometry. Based upon those analyses, the following lane geometry at each intersection is recommended:

Mitigation Plan Update:

Table 21.4-A shows the recommended number of lanes based on the new 2025 ADT volumes.

Road	Segment	2003 AADT Volume ^A	2025 ADT Volume	Number of Lanes	
				Existing	Recommended
CR 63 (Argenta Trail)	North of CR 26, South of I-494	2,150	30,300	2	5/6 ^B
	South of CR 26, North of TH 55	3,400	28,500	2	5/6 ^B
	South of TH 55	6,500	21,500	2	4
TH 3 (S. Robert Trail)	North of CR 26	8,200	23,500	2	4
	South of CR 26	6,700	21,825	2	4
	South of TH 55	7,600	19,350	2	4
CR 73 (Babcock Trail)	North of CR 26	2,450	9,450	2	2/3 ^B
	South of CR 26	2,220	9,950	2	2/3 ^B
CR 26 (70th Street)	West of CR 63	6,000	21,950	2	4
	East of CR 63, West of TH 3	5,700	31,725	2	5/6 ^B
	West of TH 3, East of CR 73	7,200	26,475	2 or 4	4
	East of CR 73	10,000	18,300	4	4

^A – Annual Average Daily Traffic from MnDOT flow maps

^B – Number of lanes will depend on number and type of roadway access points.

* Number of lanes will depend on number and type of roadway access points.

Intersection of CR 26 and CR 63

- Signalized intersection.
- Potential for dual left turns in the southbound and westbound directions. For the purposes of this analysis, a third westbound through lane on CR 26 was assumed to terminate at this intersection as a westbound left turn lane.
- Single left turn lane in northbound and eastbound directions.
- Single right turn lane in all directions. For the purposes of this analysis, the northbound right turn lane was assumed to provide a free movement into a third westbound through lane on CR 26.
- Two through lanes for the eastbound and westbound approaches.

- Three through lanes for the northbound and southbound approaches.

Intersection of CR 26 and TH 3

- Signalized intersection.
- Potential for dual left turn lanes in the eastbound and westbound directions. For the purposes of this analysis, a third eastbound through lane on CR 26 was assumed to terminate at this intersection as an eastbound left turn lane.
- Single left turn lanes in northbound and southbound directions.
- Designated right turn lanes in all four directions. For the purposes of this analysis, the southbound right turn lane was assumed to provide a free movement into a third eastbound through lane on CR 26.
- Two through lanes for all four approaches.

Intersection of CR 26 and CR 73

- Signalized intersection.
- Single left turn lane in all four directions.
- Designated right turn lane in all four directions.
- Two through lanes in eastbound and westbound directions.
- One through lane for the northbound and southbound approaches.

Intersection of TH 3 and TH 55 Westbound

- Signalized intersection.
- Two through lanes in northbound and southbound directions.
- Single left turn lane in northbound direction.
- Single right turn lane for the southbound approach.
- Two approach lanes for the westbound movement on the exit ramp.

Intersection of TH 3 and TH 55 Eastbound

- Signalized intersection.
- Two through lanes in northbound and southbound directions.
- Single left turn lane in southbound direction.
- Single right turn lane for the northbound approach.
- Two approach lanes for the eastbound movement on the exit ramp.

Intersection of CR 63 and TH 55 Westbound

- Signalized intersection.
- Two through lanes in northbound and southbound directions.
- Single left turn lane in northbound direction.
- Single right turn lane in southbound direction. For the purposes of this analysis, a third southbound through lane on CR 63 was assumed to terminate at this intersection as this southbound right turn lane.
- Two approach lanes for the eastbound approach on the exit ramp.
- A third northbound through lane on CR 63 was not needed at this intersection, but was assumed to be provided at some point to the north of this intersection.

Intersection of CR 63 and TH 55 Eastbound

- Signalized intersection.
- Two through lanes in northbound and southbound directions.
- Single left turn lane in northbound direction.
- Single right turn lane in southbound direction.

- Two approach lanes for the eastbound approach on the exit ramp.

A pictorial representation of the proposed geometry for the project area is shown along with the 2025 projected volumes in Figure 21-6. Although this report recommends signalized intersections, a Signal Justification Report will need to be completed for each intersection prior to the installation of any signal system.

The City will work with MnDOT to implement the proposed Interchange at I-494 and CR 63, and identified in the City’s thoroughfare plan. The interchange proposal will need to undergo an analysis and approvals process required by the Metropolitan Council, MnDOT, and the Federal Highway Administration. Since such approvals are complex and time consuming, this process should commence as early as possible.

Option 1 Implementation:

Responsible Parties: City of Inver Grove Heights, City of Eagan, MnDOT, Metropolitan Council, Dakota County, and the Federal Highway Administration, and other cities affected by the proposed improvements.

Regulatory Program: FHA, MnDOT, Metro Council and County plans and approvals

Implementation Time Frame: Process should begin with the regional, multi-jurisdictional traffic system planning study, and development of an Interstate Access Request if the need is confirmed in that study.

Option 2. Develop infrastructure and manage traffic to safely accommodate development planned for the Northwest Expansion Area. This option does not include development of two new interchanges at CSAH 26 & Interstate 494, and CSAH 26 and TH 55, as proposed in the City of Inver Grove Heights Comprehensive Plan.

The mitigation recommendations below are options based upon the build-out of existing roads without additional access to I-494.

Option 2 - 2025 Lane Recommendations

Road	Segment	Number of Lanes		
		Existing	Recommended in <i>DRAFT AUAR</i>	Recommended in Supplemental Analysis
CSAH 63 (Argenta Trail)	North of CSAH 26, South of I-494	2	5/6 ^B	3/4 ^B
	South of CSAH 26, North of TH 55	2	5/6 ^B	4/5 ^B
	South of TH 55	2	4	3/4 ^B
TH 3 (S. Robert Trail)	North of TH 110	4	N/A	6
	South of TH 110, North of I-494	4	N/A	6
	South of I-494	4	N/A	6/8 ^B

	North of CSAH 26	2	4	5/6 ^B
	South of CSAH 26, North of TH 55	2	4	5
	South of TH 55	2	4	4
CSAH 73 (Babcock Trail)	North of CSAH 26	2	2/3 ^B	2/3 ^B
	South of CSAH 26	2	2/3 ^B	2/3 ^B
CSAH 26 (70th Street)	West of CSAH 63	2	4	4/5 ^B
	East of CSAH 63, West of TH 3	2	5/6 ^B	5
	East of TH 3, West of CSAH 73	2 or 4	4	4/5 ^B
	East of CSAH 73	4	4	4

^B - Number of lanes will depend on number and type of roadway access points, signalized intersections, etc.

N/A - Not Applicable

County State Aid Highway 26 and County State Aid Highway 63 Intersection

County State Aid Highway 26 is currently a two-lane, east-west roadway. County State Aid Highway 63 is also a two-lane road, traveling north-south. The intersection is controlled by a four-way stop with a single lane for all movements of traffic. This geometry will be insufficient with the proposed 2025 traffic volumes. Mitigation measures include signaling the intersection and widening to four-lane roadways with designated turn lanes at the intersection. Based on the analysis, the northbound, southbound, and eastbound movements will perform adequately with one left turn lane and one right turn lane. The westbound movement will need dual left turn lanes due to the left turn volume expected and one right turn lane to accommodate the right turn movements. With these improvements it is anticipated that the entire intersection will perform at a LOS C during both the a.m. and p.m. peak hours. Except for the eastbound and westbound left turn movements during the p.m. peak hour, individual movements are expected to be a LOS D or better during the peak hours. The lower LOS for the left turn movements is due to the limits of green time available at a signal, not a capacity deficiency. Because a majority of the green time goes to the through movements, since most volume is expected for those movements, less time given to the left turn movements. It is anticipated that the LOS E should only affect the p.m. peak hour of traffic and other times should perform adequately. Additional turn lanes are probably not cost effective in this case.

County State Aid Highway 26 and Trunk Highway 3 Intersection

County State Aid Highway 26 is a two-lane roadway in this segment. Trunk Highway 3 is also a two-lane road. The intersection is under four-way stop control, and has a single lane for all movements in addition to a designated right turn lane for the northbound and southbound directions. County State Aid Highway 26 will need to be widened to a four-lane road and Trunk Highway 3 will need to be widened to a six-lane facility. By the year 2025 it will be necessary to signalize the intersection to improve the level of service. According to the traffic volumes, dual left turn lanes are anticipated for all movements of traffic. Single right turn lanes will be sufficient to accommodate the right turn volumes. With the proposed improvements, the intersection will perform at a LOS C during the a.m. peak hour and a LOS D in the p.m. peak hour. Some of the individual movements, mostly left turn movements, are expected to serve at a LOS E during the peak hours. This is mostly due to green time limitations rather than a lack of

capacity. The lower LOS is anticipated during the p.m. peak hour only and should perform adequately during all other hours. Additional lanes are not cost effective in this case.

County State Aid Highway 26 and County State Aid Highway 73 Intersection

Currently, the CSAH 26 and CSAH 73 intersection is under four-way stop control. CSAH 73 is a two-lane road. County State Aid Highway 26 widens to four-lanes just before the intersection. The intersection has designated left turn lanes and one through/right turn lane in the eastbound and westbound directions. CSAH 73 should perform adequately as a two-lane road, but needs turn lanes by 2025. It is recommended to signalize this intersection in the future. Each movement will need a right turn lane and a left turn lane. With the proposed improvements, the intersection is expected to perform at a LOS C during the a.m. and p.m. peak hours. Individual movements are also expected to be at LOS D or better during the peak hours.

Trunk Highway 55 and County State Aid Highway 63 Intersection

Currently, TH 55 is a four-lane, divided highway. County State Aid Highway 63 is a two-lane road. The intersection is under traffic signal control. If this intersection is kept as a signalized at-grade intersection, CSAH 63 will need to be widened to a four-lane road with one right turn lane and one left turn lane in the northbound and southbound directions. Trunk Highway 55 will need to be widened to accommodate a six-lane facility with dual left turn lanes and single right turn lanes for both approaches. The need for a six-lane facility was driven by the intersection analysis performed on this intersection. Under the proposed configuration, the intersection should perform at a LOS D during the a.m. peak hour and a LOS C during the p.m. peak hour. Two individual movements are expected to perform at a LOS E, but as stated in previous descriptions, this is sometimes difficult to avoid due to limitations in green time. More left turn lanes are not always the most feasible or cost effective mitigation method. Other individual movements are expected to operate at a LOS D or better during both peak hours.

Currently, MnDOT has no plans to upgrade TH 55 to six lanes. As a four-lane roadway, the intersection with CSAH 63 will experience greater delays and congestion as traffic volumes increase. In general, it is the signal, and the stacking that occurs because of it, that drives the need for six lanes on TH 55. An alternative to providing four-lanes on TH 55 could be to provide a grade separated interchange at this location. Converting to a grade-separated interchange would enhance the performance of TH 55 by eliminating a signal on this expressway/freeway. For comparison purposes, this option was analyzed using the projected volumes in this supplemental study and still assuming no new interchange at CSAH 63 and I-494.

If a grade-separated interchange is constructed at the intersection of TH 55 and CSAH 63, CSAH 63 could be reduced to a two-lane roadway with turn lanes at the interchange intersections. With a standard folded diamond geometry, the overall intersection and individual movements are all expected to operate at a LOS C or better. This suggests that with an interchange, CSAH 63 could reduce to a two- or three-lane facility to the south of CSAH 26. Although the through movements were not analyzed on TH 55 for the grade-separated interchange, the removal of the traffic signal eliminates the need to stop and should improve travel times for TH 55. This mitigation may be a preferred choice to providing a four-lane road on CSAH 63 and a six lane road on TH 55 at this location. A grade-separated interchange would also increase safety at this intersection by eliminating a signal on the mainline (TH 55), which would reduce the number of conflicts. The reduction in conflicts, in turn, would likely reduce the number of crashes.

Although not identified for upgrade to an interchange by MnDOT, this intersection is identified in the County Transportation Plan as a half diamond. The City of Inver Grove Heights should continue to have discussions with MnDOT and the County for the provision of an interchange at this location.

Trunk Highway 55 and Trunk Highway 3 Interchange

This intersection is currently a grade-separated interchange. Trunk Highway 3 is a two-lane facility with dedicated turn lanes at the TH 55 ramps. By the year 2025, it will be necessary to widen TH 3 to a four-lane facility with turn lanes at the intersections. The intersection for TH 55 eastbound ramp should perform at a LOS A and B during the a.m. and p.m. peak hours, respectively. The intersection for TH 55 westbound ramp should perform at a LOS B for both a.m. and p.m. peak hours. Individual movements are expected to have adequate traffic operations with the TH 3 up-grade.

Trunk Highway 3 and Interstate 494 Intersection

Trunk Highway 3 is a two-lane road south of the intersection with I-494 then widens to a four-lane divided section from this interchange to the north and out of the study area. The I-494 and TH 3 intersection is a half diamond interchange with exit and entrance access to the west. The eastbound exit ramp continues through the intersection to a local road. The TH 3 and I-494 eastbound exit intersection is signalized with designated turn lanes. On the eastbound ramp, dual right turn lanes are needed by 2025 along with one left turn lane and one through-left turn lane. The southbound approach should be widened to three lanes with one left turn lane. Trunk Highway 3 will need to be widened to four lanes for the northbound approach with one right turn lane. One of the through lanes will convert to a left turn lane for the I-494 westbound ramp. With the proposed improvements, the intersection should perform at a LOS B during the a.m. peak hour and a LOS C during the p.m. peak hour. Individual movements are also expected to operate at an acceptable LOS.

The westbound I-494 intersection is un-signalized with a designated right turn lane for the southbound direction. Since there are no southbound left turns and enough gaps to allow northbound left turn movements, no traffic signal is necessary under existing conditions. However, for the future 2025 condition, it will be necessary to have dual left turns for the northbound movement. Three through lanes are necessary for both the northbound and southbound movements. The southbound right turn will need one right-turn lane. A traffic signal will be needed to control the intersection with this expected geometry. A LOS B can be expected during both the a.m. and p.m. peak hours for this intersection with these recommended improvements. The individual movements all perform at adequate levels; the lowest LOS is expected to be a LOS D in the p.m. peak hour northbound left turn movement.

The mitigation presented for this interchange is one option available to accommodate the expected growth in the study area. However, an eight-lane section on a non-freeway roadway requires significant right-of-way and investment. A similar roadway section with comparable traffic and characteristics could not be found in the Twin Cities Metro area. Based upon this projected need, another or different type of access to I-494 should be considered. Furthermore, an upgrade of TH 3 to accommodate six or eight lanes of traffic is not on MnDOT's current work plan. The City will need to continue discussions with MnDOT, the Federal Highway Administration, the County, and its neighbors on the future of TH 3 and access to I-494. As presented in the *DRAFT AUAR*, another option to balance expected traffic volumes is to provide a new interchange at CSAH 63. This should be a part of the discussions to provide the most cost-effective method to accommodate expected growth in the study area and other regional areas.

Trunk Highway 3 and Trunk Highway 110 Intersection

The intersection of TH 3 and TH 110 is a folded diamond. Both the eastbound and westbound intersections are currently signalized with designated turn lanes. In the future the three through lanes will need to be carried through past TH 110 on TH 3. Dual left turn lanes are necessary for the northbound through movement. The southbound right turn movement will need one lane. One lane each should be provided for the eastbound right and left turns. The TH 3 and TH 110

eastbound and westbound intersections will need the same lane geometry and configuration. For the TH 3 and TH 110 eastbound intersection, a LOS B can be expected for the a.m. and p.m. peak hours. At the TH 3 and TH 110 westbound intersection a LOS B during the a.m. and a LOS C during the p.m. peak hours is expected.

As stated in the previous paragraphs regarding TH 3 and I-494, the City should continue to be an active member in discussing the future of TH 3 and future access, if any, to I-494. The six lane upgrade is one possible method to accommodate the expected traffic from the study area. Providing an additional access to I-494 at CSAH 63 will lower traffic volumes at this interchange and potentially reduce the need for six lanes.

Option 2 Implementation:

Responsible Parties: City of Inver Grove Heights, City of Eagan, MnDOT, Metropolitan Council, Dakota County, and the Federal Highway Administration, and other cities affected by the proposed improvements.

Regulatory Program: MnDOT, Metro Council and County plans and approvals

Implementation Time Frame: Process should begin with the regional, multi-jurisdictional traffic system planning study, and development of plans for proposed improvements, as needed.

Mitigation Plan Update:

All of the previously recommended geometry and traffic control is sufficient with the new intersection turning movement volumes. All approaches and intersections operate at LOS D or better.

Figure 21-6A shows a pictorial representation of the proposed geometry and traffic control along with the updated 2025 volumes. The geometry and traffic control remains unchanged from Figure 21-6. An Intersection Control Evaluation (ICE) must now be performed prior to installing new forms of traffic control.

The updated LOS summary can be found in Figure 21-7A. The only change to intersection level of service is at the CR 26/CR 63 intersection which changed from LOS C to D with updated land uses.

The City of Inver Grove Heights, City of Eagan and Dakota County, in partnership with FHWA, MnDOT and Metropolitan Council, completed the Dakota County North-South Corridor Travel Demand Study in July, 2007. These agencies will complete a detailed study of the transportation system in the study area, the screening of alternatives and a formal review and documentation within the next two years.

24. Dust, Odors, Noise

Traffic Noise. The analyses of traffic noise impacts for this proposed development indicate that areas near the project area roadways will have noise levels above State noise standards for residential areas. Any site plan that proposes residential development in the impact areas should conduct a detailed noise study to define any required noise mitigation strategies.

Potential mitigation strategies may include one or a combination of the following:

Buffer Zones

Noise Barriers
Strategic Building Placement
Building Construction Requirements

Responsible Parties: City of Inver Grove Heights, Private developers, MPCA

Regulatory Program: Minnesota Statutes 116, U.S. Department of Housing and Urban Development Noise Standards.

Implementation Time Frame: Noise mitigation strategies should be design and constructed as site plans are developed and implemented.

Airport Noise. A portion of the Northwest Expansion Area is within the one-mile noise buffer zone of Twin Cities International Airport. Implementation of noise controls in this area is optional and at the discretion of the City. The City will address the potential impacts of airport noise within the affected area as follows:

The City will require notification of the noise buffer zone area to new homeowners, and recommend use of best practices in construction to developers within the noise buffer zone.

Responsible Parties: City of Inver Grove Heights, Private developers

Regulatory Program: U.S. Department of Housing and Urban Development Noise Standards.

Implementation Time Frame: Strategies developed during building design; notification to potential homeowners as development occurs.

Mitigation Plan Update:

Traffic volumes have changed as a result of the project, and noise levels may change accordingly. However, traffic volume changes would need to change by a factor of two to be perceptible. The traffic volume changes are well below changing by a factor of two, and noise level changes will be less than perceptible levels.

The mitigation measures identified in the AUAR will still apply, and any residential development still needs to conduct a noise mitigation study to consider mitigation measures.

25. Nearby Resources

Archaeological, Historic, and Architectural Resources

Protection Strategies

1. When properties identified in this AUAR as retaining enough integrity to warrant more intensive evaluation are scheduled for development, federal law, i.e. Section 106 of the National Historic Preservation Act and guidelines issued by the Secretary of the Interior, should be followed. For further detail, refer to individual comments provided above with each of the entries in Section 25.

Responsible Parties: City of Inver Grove Heights, SHPO, private developers

Regulatory Program: Section 106 of the National Historic Preservation Act and related guidelines.

Implementation Time Frame: As development is planned on the identified properties.

Mitigation Plan Update:

No further archaeological, historical, or architectural investigation or research was conducted with this update.

27. Compatibility with Plans

The City will seeking approval of a Comprehensive Plan Amendment from the Metropolitan Council that includes the land use changes proposed for the Northwest Area since the adoption of the City's Comprehensive Plan.

Responsible Parties: City of Inver Grove Heights, Metropolitan Council

Regulatory Program: Metropolitan Land Planning Act

Implementation Time Frame: Comprehensive Plan Amendment process is expected to be concurrent with AUAR process

ADOPTED ENVIRONMENTAL PROTECTION PLANS AND REGULATIONS

The City of Inver Grove Heights and other units of government have a variety of plans, ordinances and regulations in place that address environmental issues in the proposed development area. These mechanisms will be enforced and amended as indicated in the Mitigation Plan to provide a comprehensive framework and set of tools to protect the natural resources of the area as development occurs:

City Comprehensive Plan

Zoning and Subdivision Ordinances, including

- Land Alteration (Grading and Erosion Control) Ordinance
- Floodplain Ordinance
- Shoreland Ordinance
- Critical Area Ordinance
- Tree Preservation Ordinance
- Proposed Zoning Ordinance: *Subd. 37 Northwest Area Planned Unit Development Overlay District*. Prior to adoption of the final zoning and subdivision ordinances for the area, the City will conduct public hearings, gather more information and seek input from the community, the landowners and potential developers. As a result of this investigative process, the ordinances as adopted may vary from the draft ordinance, and the City may also adopt alternate means to achieve the proposed mitigation. However, the goals and objectives relating to mitigation and the desired quality of development will remain substantially similar to those envisioned by the draft ordinance.

Surface Water Management Plan for the Northwest Expansion Area

Gun Club Lake and Lower Mississippi River WMO Plans

Minnesota Wetland Conservation Act

Water Supply and Distribution Plans

Wellhead Protection Ordinance

Mitigation Plan Update:

The City of Inver Grove Heights will be updating its Comprehensive Plan in 2008.

The City of Inver Grove Heights is currently processing a Comprehensive Plan Amendment that is consistent with the land use changes proposed in the Northwest Expansion Area AUAR Update and the updated Development Scenario. Land located at the northwest quadrant of TH 55 and TH 3 will change from guided as Industrial Office Park to guided as Community Commercial and Low/ Medium Density Residential. This is consistent with the updated Development Scenario. This Comprehensive Plan Amendment will reviewed by the Planning Commission and City Council will occur in August 2007. The Metropolitan Council will review this amendment in September 2007.

CITY OF INVER GROVE HEIGHTS

DAKOTA COUNTY, MINNESOTA

RESOLUTION NO. 04-160

**RESOLUTION ORDERING THE PREPARATION OF AN ENVIRONMENTAL
REVIEW FOR THE NORTHWEST AREA**

WHEREAS, the Inver Grove Heights 2020 Comprehensive Plan anticipates the expansion of urban facilities and services into the Northwest Area of the City; and

WHEREAS, the provision of such services and facilities will result in residential, commercial, industrial, and park development; and

WHEREAS, the City wishes to comply in good faith with the requirements of the rules of the Minnesota Environmental Quality Board (EQB); and

WHEREAS, the City has determined that the scale and intensity of anticipated development in the Northwest Area has the potential for significant environmental impacts; and

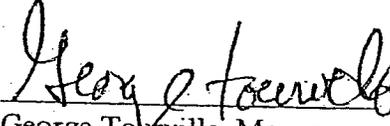
WHEREAS, because of the scale of future development and the sensitive environmental resources in the Northwest Area, the City has determined that it is most appropriate to plan for the area under the provisions of the Alternative Urban Area-wide Review (AUAR) process, as described in Section 4410.3610 of the EQB Rules; and

WHEREAS, the City of Inver Grove Heights has adopted a Comprehensive Plan that meets the criteria of the EQB Rules allowing the City to proceed with the AUAR;

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Inver Grove Heights hereby orders the environmental review of the area known as the Northwest Area consistent with the intent and purposes of the rules of the Minnesota Environmental Quality Board under the provisions for Alternative Urban Area-wide Review (AUAR).

Passed by the City Council of the City of Inver Grove Heights on the 11th day of October, 2004.

AYES: 5
NAYS: 0


George Topville, Mayor

ATTEST


Catherine Iago, Deputy Clerk

**Project Title: Northwest Expansion Area AUAR:
**Final AUAR, Mitigation Plan and
Responses to Comments****

Proposer: City of Inver Grove Heights

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Director

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RGU: City of Inver Grove Heights

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INTRODUCTION

The Draft Alternative Urban Areawide Review for the Inver Grove Heights Northwest Expansion Area was prepared by the City of Inver Grove Heights and submitted to the Environmental Quality Board and commenting agencies in accordance with EQB Rules on June 27, 2005. The notice appeared in the EQB Monitor on July 4, 2005. The required 30-day comment period ended on August 3, 2005. Comments were received from various public agencies and organizations, and copies are included in the Appendices.

This final AUAR identifies the comment letters received, paraphrases the comments, and provides responses to the comments. The largest number of comments received related to the Traffic analysis (Item #21). Comments related to the Traffic analysis focused on three key issues:

- Request for additional traffic analysis without the interchanges at I-494 and Argenta, and Highway 55 and Argenta that are identified in the City's Comprehensive Plan
- Relationship of the household and traffic numbers projected in the City's Comprehensive Plan to those included in the County's traffic forecasts, and
- The need for multi-jurisdictional planning in the area between Interstate 35E and Highway 52, to address the increased traffic anticipated due to the growth in communities in this area.

The Cities of Inver Grove Heights and Eagan met with representatives of the Federal Highway Administration, Minnesota DOT, and Dakota County to discuss traffic issues in the AUAR area and adjacent communities. The responses to comments and Supplemental Analysis on Traffic issues are included in this AUAR, and reflect these discussions.

The Final AUAR Mitigation Plan is also included in the attachments to this document, and incorporates changes in language and content based on comments received.

The Inver Grove Heights City Council will formally adopt this Final AUAR and Mitigation Plan in January, 2005.

RESPONSES TO COMMENTS

Responses to comments are organized around each comment letter to insure that responses specifically address each reviewer's concerns. To clarify what comment is being addressed, the page and item number are indicated. If the comment is editorial or advisory, we have acknowledged the comment and any necessary correction(s) to be made. For comments that are substantive, we have replied and where necessary, referenced appropriate sections of the Draft AUAR. Revisions to Tables, Figures and analyses are included in the Attachments, along with the revised Mitigation Plan.

Metropolitan Council Comments

Page 1—21. Traffic

...Since these improvements (interchanges at CSAH 63 and I-494, and at CSAH 63 and TH 55 and TH3) are not included as expansion projects in the regional Transportation Policy Plan or MnDOT's Transportation System Plan, the traffic analysis should be redone without these improvements in order to determine the impact of traffic on the local and regional roadway systems.

Response: The City has completed additional analysis as requested, without the proposed interchanges. This Supplemental Analysis is included in the Attachments to this Final AUAR.

Assumptions regarding background growth in traffic should be explained more fully.

Response: Background growth within the project area was assumed to be 1.5 percent per year on TH 3 and CSAH 26. For other roadways, the growth rate was 1.0 percent per year. These factors were determined by examining MnDOT's State Aid growth rates, the historic growth of roadways in these areas, and the potential future growth of areas immediately surrounding the project area. The background growth is in addition to the traffic generated by the proposed land uses assumed in the draft AUAR.

The traffic analysis concludes that no significant increase in congestion levels on I-494 and TH55 are anticipated due to the additional vehicle trips added to the regional roadway system. It then goes on to say that the proposed development would increase traffic on I-494 west of CR 63 by approximately 15,500 vehicles, a significant amount. Because of the large scale of this development and its long build-out period, a better methodology for assessing impacts on the metropolitan highways may be achieved by using the regional traffic forecasting model with adjustments for other large scale developments in the vicinity of the project.

Response: Using planning level capacity assumptions, a six-lane freeway facility could be expected to handle approximately 110,000 vehicles per day. The current AADT, from the 2004 MnDOT flow maps is 87,000 (as a note, the DAUAR lists 83,000 from the previous MnDOT flow map). The DAUAR projects 15,550 vehicles added to this portion of the I-494, which, by itself, can be accommodated by the freeway. However, with other development and general background growth, the corridor could be faced with capacity constraints.

This leads to the need for a more regional study that will examine a large area on a multi-jurisdictional basis, which is supported by the City. A meeting with local governments and transportation agencies was held on August 31, 2005 where general consensus was reached on this need. The City will be an active participant in future studies of this area.

The City supports and would be an active participant in a regional examination that would include its neighbors, the County, MnDOT, the Metropolitan Council, and the

FHWA to determine the future vision of the area and appropriate improvements to the transportation system. However, this regional assessment, which would include additional development from Eagan and others, is outside the scope of this AUAR.

...adding the households in the study area to the census forecast results in 18,347 households. This is 347 households more than the Metropolitan Council's 2030 forecast. The number of housing units added to City between 2000 and today is not included nor is the increase in the number of households elsewhere in the City over the next 25 years. Because the regional travel forecast model is based on the Council's forecast, this discrepancy in numbers could affect traffic forecasts on area roads.

Response: The households in the study area were determined by the City's long term land use and density plans. The City will work with the Metropolitan Council to resolve this discrepancy between the City's land use plans and the Metropolitan Council's forecasts.

The traffic mitigation section identifies a number of highways that will need expansion. To protect land adjacent to these highways, the City may show these right of ways through official mapping. The Metropolitan Council's Right of Way Acquisition Loan Fund (RALF) program may then be available to the City to acquire some of these officially-mapped parcels.

Response: Thank you for this information.

Item 24. Dust, Odors, Noise

...A portion of the expansion area is within the one-mile (airport) noise buffer zone. Implementation of noise controls in this area is optional and at the discretion of the affected community...The city is strongly encouraged to include notification to new homeowners and to ensure use of best practices in construction to help reduce exterior to interior noise intrusion. The AUAR does not contain any discussion or references to aircraft noise. AUAR item number 9 or 27 should indicate these conditions as concerns aircraft noise impacts.

Response: The City will require notification to new homeowners, and recommend use of best practices in construction within the noise buffer zone. A statement identifying the buffer zone and these practices will be included in Item 27 in the Final AUAR Mitigation Plan (attached).

Item 27. Compatibility with plans

The Regional Park System Plan (2005) includes a proposed north-south regional trail in the central part of Dakota County. In Inver Grove Heights, the trail may be located on the west side of the City. The City is encouraged to work with the Dakota County parks staff to identify a trail corridor and to incorporate it into the final AUAR if the schedule permits. The identified greenways in the Draft AUAR are consistent with the Dakota County Soil and Water Conservation District's greenways planning project for this part of the County.

Response: The western Greenway Corridor identified in the Draft AUAR is proposed for the regional trail location as well as a greenway. The City is updating its parks and trails plan, which will include the AUAR area, and which will address the trail location.

Item 17. Water Quality—Surface Water Runoff

The Draft AUAR document only incorporates discussion of one specific LID method in dealing with storm water runoff...Each and every development site within the area, regardless of size will need to have a site-specific runoff plan designed and approved prior to construction, due to the extent of sub-watersheds without overflow outlets within the development area.

Response: The City concurs with this comment and has authorized the drafting of its Stormwater Design Manual which will guide the development of site-specific runoff plans. The Manual is currently underway and scheduled for completion at the end of the year.

The Council recommends that the City perform a comprehensive hydrologic and hydraulic storm water bounce modeling study of the entire portion of the northwest development area located within the Gun Club Lake watershed prior to beginning any development in the area.

Response: The City concurs with this comment and has authorized the development of the hydrologic and hydraulic study for the Gun Club Lake watershed. The study is currently underway and scheduled for completion in 2006.

...The City will need to submit a specific LID design manual for the Northwest development area, as well as their updated Local Surface Water Management Plan for the City either prior to, or in conjunction with, the comprehensive plan amendment for this area to be considered complete for review. Development within this area as proposed, without having adopted these documents, could be determined to be a potential metropolitan system impact.

Response: The City acknowledges this request and will provide the subject documents for review during the Comprehensive Plan Amendment process.

Minnesota Department of Transportation

Item 21. Traffic

We are concerned about the assumption that a new interchange will be allowed on I-494 in the County Road 63 area of Inver Grove Heights, Eagan and Sun Fish Lake. We have since conferred with the FHWA on this matter and both agencies are in agreement that 1) the Federal Highway Administration (FHWA) will require an Interstate Access Request, for which extensive freeway operational modeling be needed, and 2) the City should consider and reveal more alternatives beyond the I-494 to County Road 63 (Argenta Trail) alternative as you review the transportation needs that serve this area of development. For example, it is quite possible that other local roadway connections/improvements may be required such that no net increase of access on I-494 would be necessary...

Response: The City is aware that an Interstate Access Request is necessary before any interchange to the Interstate system is approved and ultimately built. The City is committed to working with MnDOT and the FHWA on new access to the Interstate and will continue to prepare or assist in the preparation of required documents at the appropriate time. The Interstate Access Request is not a requirement for the AUAR, but would be completed during the process before an Interchange is built.

The City has completed additional analysis as requested, without the proposed interchanges. This Supplemental Analysis is included in the Attachments to this report.

We also have similar traffic operations and physical feasibility concerns about the proposal to add another interchange to Highway 55 in close proximity to Highway 3. We understand that operational modeling will be done as a part of your traffic study, so we encourage you to assume only one connection or the other to Highway 55 as the baseline for traffic analysis.

Response: The City has completed additional analysis as requested, without the proposed interchanges. This Supplemental Analysis is included in the Attachments to this Final AUAR.

We look forward to working collectively with you and the local governmental units impacted by the development proposed in this AUAR area to more extensively study the traffic operation alternatives. MnDOT is prepared for continued involvement in this study.

Response: The City supports and would be an active participant in a regional examination that would include its neighbors, the County, MnDOT, the Metropolitan Council, and the FHWA to determine the future vision of the area and appropriate improvements to the transportation system. The City also looks forward to continuing this process and working with other agencies on interjurisdictional planning for the transportation system in this area.

Federal Highway Administration—Comments on Supplemental Analysis
December 19, 2005

Assume Land Use and Volume Projections, page 2

It does not appear from Figure 1, Figure 2, Figure 3, Table 1, and Table 2 that the benefits of building this east-west route are taken into account, but Inver Grove Heights' response to comments on page 14 states, "The Supplemental Analysis determined the existing roadway system is inadequate to handle the expected traffic increases from the study area, even with the additional local roadways such as an additional east-west collector roadway located at approximately 65th Street..."

If no assumptions about size, geometry or intersection layouts are assumed, how did the study come to the conclusion that the proposed east-west roadway provides no benefit to the movement of local traffic and no effect on the need for an interchange?

If the intent is to maximize the local road system, the design assumptions used in the analysis and the benefits (or lack thereof) of this east-west collector should be included in the supplemental analysis.

Furthermore, are there no additional collector routes planned to maximize the ability of the local system to handle future traffic?

Response: The Yankee Doodle Road extension to 80th Street, the extension of 65th Street, and the 'ring roads' around the TH 3 and CSAH 26 intersection as well as likely residential roadway connections were accounted for in the trip generation and distribution in these studies. The collector roadways were assumed to be two- or three-lane roadways, which will depend upon the amount of access. It was assumed that motorists would use these routes as an alternative to the major routes or as a short-cut between areas. However, these collector roadways were not projected or intended to handle the majority of traffic.

The AUAR never stated that these additional roadways do not provide a benefit to the study area. The added collector roads will indeed serve traffic and offer some relief to the major routes. The major routes will still attract and should be designed to accommodate larger traffic volumes. Both the AUAR and the Supplemental Analysis state that improvements are needed to the major routes even with the benefit that the additional collector roadways will provide.

In the study area, north-south major roadways include CSAH 63 (Argenta Trail), TH 3 (Robert Trail), and CSAH 73 (Babcock Trail). These roadways are located approximately 0.7 miles apart. Major east-west roadways include the Yankee Doodle Road extension to 80th Street, CSAH 26 (70th Street), and the future 65th Street extension. These roadways are also located approximately 0.5 – 0.7 miles apart. Given the existing development in the area and the angled freeways/expressways, the City is planning on providing major routes on par or better than other

developed/developing areas. Together with the 'ring roads' surrounding the TH 3 and CSAH 26 intersection, the City is planning to provide a well structured roadway network to move traffic volumes.

Mitigation, page 4

Where the supplemental analysis states, "The mitigation recommendations below are options based upon the build-out of existing roads without additional access to I-494," consider adding something to the effect of "...or improvements to existing interchanges at TH 149 and TH3."

Response: Comment noted. Thank you.

CSAH 26 and TH3, page 7

See comments (1) below about evaluation CFI, etc.

Response: Continuous flow intersections (CFI) and other types of non-traditional intersections are not widely known or been widely examined in Minnesota. While these types of intersections have their benefits and value, the general public, City officials, and/or reviewing agencies may not fully understand their impacts or cost-benefit. Given the unknowns, evaluation of new types of intersections may not be appropriate in the AUAR. A more detailed intersection study, if desired by the City, could examine the impacts of alternative intersections in terms of land needs, cost, safety, traffic operations, etc. Such an analysis, if ever desired, would be best conducted at this or another major intersection when traffic volumes are at a level that improvements are necessary.

Response to comments, page 11

A six-lane freeway may handle approximately 110,000 vehicles per day, but it may not be with an acceptable LOS. Without a model including a specific interchange layout and future traffic projections surrounding your area, that is a determination best answered by the multi-jurisdictional study. Clearly state the assumptions (including assumed necessary traffic conditions on I-494) behind the 110,000 number.

Response: We agree that the capacity and level of service on I-494 would best be answered by a multi-jurisdictional study and have supported this type of study throughout the AUAR and responses to comments. Without a detailed study, the volume on the six-lane freeway was instead evaluated with planning level assumptions as follows:

- 2,100 vehicles per lane per hour
- Peak hour percentage of 9%
- Directional orientation of 55/45

With these planning level assumptions, a six-lane freeway could accommodate approximately 126,000 vehicles per day before reaching level of service F. This was not an attempt to avoid a larger study, but an attempt to perform a planning level assessment of traffic volumes on I-494 for this AUAR.

General Comments

The document mentions intersection layouts and their ability to handle certain turning movements. The Supplemental Analysis recommends anywhere 4-6 lanes on a number of facilities to handle the 20+ year traffic. Considering the LOS ratings in Figure 3 and the number of lanes recommended to handle future traffic, one must acknowledge the benefits that relatively new intersection layouts not yet seen in Minnesota may bring to the study area. Continuous flow intersections (CFI) and center-turning overpasses are just a few geometric options that may effectively bring a higher LOS and better safety than the "traditional" layouts used for purposes of the Supplemental Analysis. These are among a few of the options that must be evaluated to maximize the safety and capacity of the local system under future traffic.

Response: Continuous flow intersections, center-turning overpasses, 'Volleyball' interchanges, etc. are examples of different layouts possible to improve intersection levels of service. However, these relatively new designs have not yet been examined by MnDOT or Dakota County in terms acceptability in this state, potential safety or other issues, or cost-benefit ratios in comparison to traditional intersections.

Given these unknowns, an AUAR may not be the appropriate place to examine non-traditional intersections that the general public, City officials, and/or other reviewing agencies have not heard of or do not have many details. If desired by the MnDOT, the County, and the Cities, alternative intersection review and study could be included in the multi-jurisdictional study of this area.

Minnesota Department of Transportation – Metropolitan District

Item 21. Traffic

The analysis is not consistent with MnDOT's adopted forecast guidelines. It needs to include a forecast that reflects a constrained network as a basis for evaluation. This analysis is not adequate to conclude how development will impact traffic volumes and operations in the area, most notably on I-494, TH 55, and TH52. However, the following comments are based on what was submitted.

Response: The Supplemental Traffic Analysis has been completed using the constrained network (without the proposed interchanges at I-494 and Argenta, and Highway 55 and Argenta), and is included in the Attachments to this Final AUAR. The Final Mitigation Plan has also been updated to reflect the Supplemental Analysis, and is included in the Attachments.

- *The traffic analysis presented used the ITE Trip Generation manual assumptions for reducing the number of trips (pass-by, intercepted, etc.) and to arrive at the growth for the background traffic. This approach is only appropriate for a much smaller scale of development that will be completed within the near term and will not have significant impact on the regional transportation system. Also, the traffic analysis noted adjustments to the forecasts for trip reductions and background growth, but the assumptions were not quantified in the documentation. On what basis were traffic patterns and background growth established? Is there a background growth rate applied/assumed or is it just existing volumes and development traffic?*

Response: The existing traffic volumes on the study corridors and intersections were adjusted to reflect development volumes, background growth, and adjustments to traffic patterns based upon the new interchanges. The development volumes reflect the raw trip generation based upon the City's land use assumptions for this area minus the reductions for pass-by, multi-use, and internal trips. The new traffic from the future land uses that affect the study corridors and intersections was assumed to be 60 percent of the total raw trip generation. These trips were distributed to the study roadway systems based upon the existing travel patterns, knowledge of the area, and input from the City.

Background growth was a per year increase to existing traffic to reflect growth in other areas outside the study area. In this case, the background growth within the project area was assumed to be 1.5 percent per year on TH 3 and CSAH 26. For other roadways, the growth rate was 1.0 percent per year. These factors were determined by examining MnDOT's State Aid growth rates, the historic growth of roadways in these areas, and the potential future growth of areas immediately surrounding the project area.

Adjustments to travel patterns with the new interchanges included a shift of traffic from TH 3 to CSAH 63, based on the improved direct access to I-494. This reduced traffic on TH 3 and increased traffic on CSAH 63.

Adding the new traffic, background growth, and traffic adjustments to the existing traffic volumes produced the projected daily and peak hour traffic volumes.

- *This is a very large development area that will take a number of years to be completed. As such, the traffic analysis needs should reflect this development scale by using the regional transportation planning modeling procedure as the tool for this analysis. The regional model accounts for all of the other forecasted land use and transportation system changes expected to occur during the period being analyzed. The results of the regional model then should be used to do the detailed traffic analysis for this area. Note that the regional model analysis needs to reflect any changes in land use – expected or proposed and these changes should adjust the development assumptions up or down in the area so that they are all consistent with the metro council regional development totals. It should also be adjusted to reflect additional large scale developments in the vicinity of this proposed development (including any in adjacent municipalities). Significant amounts of traffic will use either I-494, TH 55, TH 52, and TH 149. There needs to be some analysis of impact to these facilities.*

Response: The City supports and would be an active participant in a regional examination that would include its neighbors, the County, MnDOT, the Metropolitan Council, and the FHWA to determine the future vision of the area and appropriate improvements to the transportation system. However, this regional assessment, which would include additional development from Eagan and others, is outside the scope of this AUAR.

- *A more systematic approach to analyzing the traffic impacts of the development on the local and regional roadway system must be completed. The analysis provided only assumes a final configuration of the access to the regional system, most notably a proposed new interchange at CR63 and I-494. There was no analysis of the current interchanges to support the need for this new interchange. The analysis should, at a minimum, include the following scenarios:*
 - 1) *Analyze the development with the currently planned local roadway system improvements*
 - 2) *Analyze with improvements to the local roadway system (including additional roadways to access current interchanges with the regional roadway system)*
 - 3) *Analyze with improvements to the current interchanges with the regional roadway system, if improvements are required.*
 - 4) *Analyze with the new interchange at CR63 and I-494, if it is found to be required. The analysis should include the operations on the regional roadway system to insure that the*

additional interchange is feasible given the short distance to existing interchanges (merge, diverge and weaving).

Response: The City has completed additional analysis as requested, without the proposed interchanges. This Supplemental Analysis is included in the Attachments to this Final AUAR. The Supplemental Analysis determined the existing roadway system is inadequate to handle the expected traffic increases from the study area, even with additional local roadways such as an additional east-west collector roadway located at approximately 65th Street, the 'ring roads' surrounding the intersection of TH 3 and CSAH 26, and connecting 80th Street from TH 3 to CSAH 63 and beyond. The Supplemental Analysis further shows the required improvements to the study corridors and intersections needed if new interchanges are not provided.

It is not acceptable to state that the details of the interchange will be determined when it is designed as there may be constraints that would either make the interchange extremely expensive or limit one or more movements. Also, this interchange could require significant changes to the adjacent interchanges. Therefore, this needs to be more fully analyzed at this point given that its configuration would have significant impact on the configuration of the local roadway system design.

Response: The AUAR is a planning level document that suggests the need for an interchange at the CSAH 63 and I-494 location. As acknowledged in other comments and our responses, an Interchange Access Request as well as other documentation will need to be completed before an interchange could be built. An initial meeting has been held with the various agencies to discuss the regional transportation system and future improvements, which may include an interchange. A regional study is supported by the City and it would be an active participant in this study. However, this type of regional study is outside the scope of this AUAR.

- *Page 79 of the AUAR has italicized instructions in the last sentence. "If the project is within the Twin Cities Metropolitan Area, discuss its impact on the regional transportation system."*
 - 1) *Other nearby Major Arterials TH-52 and TH 149 are not covered nor is there a negative impact declaration.*

Response: The majority of traffic will likely be traveling to and from I-494 to access other freeways to their desired destination. In addition, as the distance increases from the study area, the effect on roadways will lessen. Based upon the expected traffic distribution, neither TH 52 nor TH 149 is expected to have major impacts from the developed study area.

- 2) *The traffic report provides a limited traffic assessment and minimal detail on I-494 and TH-55, though new interchanges are proposed. More detail and traffic data should be included about traffic on these roadways.*

Response: Using planning level capacity assumptions, a six-lane freeway facility could be expected to handle approximately 110,000 vehicles per day. The current AADT, from the 2004 MnDOT flow maps is 87,000 (as a note, the DAUAR lists 83,000 from the previous MnDOT flow map). The DAUAR projects 15,550 vehicles added to this portion of the I-494, which, by itself, can be accommodated by the freeway. However, with other development and general background growth, the corridor could be faced with capacity constraints.

This leads to the need for a more regional study that will examine a large area on a multi-jurisdictional basis, which is supported by the City. A meeting with local governments and transportation agencies was held on August 31, 2005 where general consensus was reached on this need. The City will be an active participant in future studies of this area.

TH 55 is a four-lane expressway from the intersection of CSAH 63 to the west and a four-lane freeway to the east of CSAH 63. Using the lower expressway capacity of a four-lane roadway with turn lanes, TH 55 could be expected to accommodate approximately 32,000 vehicles per day on a planning level basis. Current 2004 MnDOT flow maps lists AADTs of 19,200 or less in this area on TH 55. The projected traffic from the development is expected to add 5,600 or less to this corridor. Even with background growth, the roadway could handle the traffic based upon planning level daily traffic thresholds. However, as shown in the Supplemental Traffic Analysis, at-grade intersections on TH 55 may not be able to sufficiently accommodate the expected growth as a four-lane facility. It is expected that, as an interchange, the traffic on TH 55 and its expected growth could be accommodated in this area.

- 3) *The consideration of intersection spacing appears to be an issue on TH-55 at CR 63. This needs to be commented on.*

Response: The interchange was examined with all on- and off-ramps on the west side of CSAH 63. This was done to provide the most spacing between the interchanges at CSAH 63 and at TH 3. While examined in this DAUAR, the proposed interchange will also need additional study and evaluation before it is acceptable and built. It is expected that any spacing issues will be resolved in these additional studies.

- 4) *The mitigation plan needs more detail on the proposed interchanges. The mitigation discussed on page 93 leaves us uncertain as to whether or not an interchange is being proposed at CR 63 and TH-55.*

Response: An interchange at the intersection of TH 55 and CSAH 63 was a part of the base assumption in the DAUAR and therefore not listed in the discussion of mitigation. The Supplemental Traffic Analysis does examine the at-grade intersection and suggests the interchange as a mitigation measure.

- 5) *Please note that we have reviewed and concur with the FHWA comments (attached letter).*

Response: Comment noted. Please see our responses to the FHWA and discussion of their comments.

- 6) *The County has completed an Environmental Assessment on the CSAH 28 extension. The preferred alternative includes a half interchange at TH55 and CSAH28. While the County has indicated to Mn/DOT it would prefer full interchange, the department has asked the County to do further operational analysis of the proposed configuration. Mn/DOT has serious reservations about whether TH3 at TH55 can remain as a full interchange if there is a full interchange at CSAH 28 and TH55.*

Response: The DAUAR and the Supplemental Traffic Analysis have indicated the benefits of a full interchange at this location. The City is supportive of a full interchange at this location. A multi-jurisdictional study that addresses the needs and concepts is also supported by the City.

Section 8--Permits:

- *Under Section 8 "Required Permits and Approvals" (page 14); the Federal Highway Administration (FHWA) is missing from the list of agencies, for new freeway interchange approvals. The interchange project proposer will need to submit an Interstate Access Request (IAR) that needs coordinated through Mn/DOT with final approval by the FHWA. Please see the attached letter from the FHWA, dated July 26, 2005, that notes the IAR should demonstrate:*
 - *Why the existing interchanges or local roads can not accommodate the design year traffic, and that all reasonable design options have been adequately assessed*
 - *That the proposed Interstate access point must not have a significant adverse impact on the safety and operation of the Interstate facility (an operational analysis would be needed to support this)*
 - *That the Interstate access would not be put into the context of area development*
 - *That any request for new or revised access to the Interstate should be in the context of a long-term plan derived from an Interstate network study.*

Response: We will update Section 8 to include the Interstate Access Request (IAR). The City understands the need for the IAR and the analysis that needs to be included in the Request. The City will complete the IAR (or collaborate with other cities to complete the IAR) at the appropriate time.

This is a reiteration of what was outlined in the letter to the City from Mn/DOT dated December 7, 2004 (see attached letter). It was also stated in that letter that Mn/DOT has similar traffic operations and feasibility concerns about the proposal to add another interchange to Highway 55 in close proximity to Highway 3, also, any traffic analysis that didn't include operational modeling should assume only one connection to Hwy 55 in that area.

- *Municipal Consent A new proposed interchange or capacity expansion on a state trunk highway or interstate requires that the Commissioner of Transportation*

obtain consent of the municipality that the project is within per Minnesota State Statutes 161.163-167. The Commissioner of Transportation is required to obtain municipal consent from all municipalities within the project area, so depending on the project limits of the proposed I-494 and CR 63 interchange, it may need to be presented to Egan, Sunfish Lake and Mendota Heights for review and approval upon completion of the development of a staff approved layout.

Response: Thank you for this information. The City anticipates working with MnDOT, Dakota County, and surrounding cities on future transportation planning in this area.

- *Any use of or work within Mn/DOT right of way or affecting Mn/DOT right of way (ie., drainage) requires a permit. Permit forms are available from Mn/DOT's utility website at www.dot.state.mn.us/tecsup/utility. Please direct any questions regarding permit requirements to Buck Craig (651-582-1447) of Mn/DOT's Metro Permits Section. Please update the Permits needed portion on pages 14 of the AUAR to also include possible drainage permits from Mn/DOT.*

Response: The City is aware of the need for the permit to work in the right of way.

Section 21—Traffic:

- *A few of the proposed improvements have been identified as needs on the trunk highway system, but no funding is available for in Mn/DOT fiscally constrained 20 year plan (through 2030) to improve any state trunk highway facilities within the project area. It should be noted that Mn/DOT's needs analysis was based on the regional model. In comparing the project growth from the regional model, it appears residential growth is similar; but that employment growth presented in the AUAR is double (approximately 4000 more employees) than is in the area in the regional model.*

The city and county are strongly encouraged to adequately build their local collector and arterial networks to help support the growth. Local street connectivity is highly encouraged to provide local alternatives rather than forcing traffic to use the regional system for local trips. The AUAR does not provide enough detail to assess whether the local system is adequate to provide alternate routes to support the county and state arterial roadways.

Response: We concur in this comment. As development evolves, continuous planning will be on-going by the City to provide a supporting network of roadways. Such a network is highly dependent upon development plans and is best addressed at the time that area development is proposed.

- *Where opportunity exists, the city should require individual developments within the subject area to install necessary improvements on the state trunk highway system as a condition of development approvals (e.g. intersection geometric improvements, sidewalks and trails, signals and capacity needs triggered by the development).*

Response: The City will work with MnDOT and Dakota County on this issue as developments are proposed in the AUAR area.

- *As the area develops adjacent to TH 3, TH 55 and I-494, additional right-of-way needs to be preserved for the expansion projects identified in the traffic mitigation section. The city should work with Mn/DOT to develop a footprint for those improvements identified in the traffic mitigation plan and then take appropriate steps to insure the preservation of the needed right-of-way. The City should implement some or all of the following techniques: right of way dedication, setbacks, platting of outlots. Mn/DOT strongly encourages that the city consider adopting an official map of the proposed highway expansion right-of-way needs area to further protect the needed right-of-way and to be eligible for the Metropolitan Council's Right of Way Acquisition Loan Fund (RALF) program for advance purchases of right-of-way where dedication or other zoning tools may not be applicable.*

The city should also take into consideration the stormwater facilities needs of the proposed highway expansion projects in the mitigation plan and work with adjacent developments to reserve ponding and treatment capacity for these future improvements.

Response: Comment noted. The City will work with MnDOT on these right-of-way and stormwater issues.

- *In 2002, Mn/Dot approved its Highway Access Category System and Spacing Guidelines as the Department's policy for managing access and signal spacing on the State's Trunk Highways. Each highway in the state has been assigned to an Access Management Category based on its functional classification, strategic importance to the statewide system, and the character of the surrounding land use. The policy is intended to promote the safety and mobility of the traveling public while accommodating the access needs of the surrounding area.*

Included below are some of the policy guideline highlights for your use in reviewing proposed developments adjacent to TH 3 and TH 55:

- *TH 3 through Inver Grove Heights (if south of TH 494) has been designated a Category 5B roadway: a Minor Arterial Highway in an Urban/Urbanizing Area. For Category 5B roadways, primary, full movement public street intersections should be spaced 1/4 mile intervals. Signal spacing is limited to 1/4 mile minimum.*
- *TH 55 through Inver Grove Heights has been designated a Category 3B roadway: a High-Priority Regional Corridor in an Urban/Urbanizing Area. For Category 3B roadways, primary, full movement public street intersections should be spaced at 1/2 mile intervals. Secondary public street entrances may be spaced at 1/4 mile intervals between primary intersections. These secondary public street*

entrances are restricted to right-in/right-out only movements. Signal spacing is limited to ½ mile minimum.

- *Access to property along the corridor should be provided from the local public street network and not via direct private driveways onto TH 3 and TH 55.*
- *All proposed accesses should conform to these approved guidelines; however, each proposed access location is also subject to final location placement review in order to check for other safety factors such as sight distance, reaction distance, etc. These guidelines are necessary to ensure the safety of the traveling public. A more detailed explanation of our access management guidelines can be found at <http://www.oim.dot.state.mn.us/access/>*

Response: Comment noted. The City will attempt to adhere to access guidelines and will work with MnDOT, the County, and developers as development occurs and access is requested. Thank you for this information.

Section 17—Surface Waters-Surface Water Runoff:

- *The proposed development will need to maintain existing drainage rates towards Mn/DOT R/W (Right-of-Way), (I.e., the rate at which storm water is discharged from the site must not increase). The applicant will need to submit plans as they develop. If drainage is being sent towards Mn/DOT right-of-way, a drainage permit will be required. The applicant will need to also submit hydraulic computations for 10 and 100 year storms at pre and post development stages. All maps and plans used to calculate drainage must also be submitted. Drainage area maps should have flow arrows to indicate direction of overland and conveyed flows.*

Response: The Draft AUAR notes on page 14 that a permit from Mn/DOT is required for work within R/W. It should be further noted that rate control requirements are currently in place under existing City Ordinances and will continue to be enforced within the Northwest Expansion Area.

- *It is laudable that the City of Inver Grove Heights proposes to make extensive use of infiltration of runoff for the development of this area. However, as demonstrated by some of the problems that have occurred with sustained high water levels in land-locked basins within the city, the variability of seasonal weather, soils, and maintenance may not allow an enhanced infiltration approach alone to provide acceptable control. Extensive use of infiltration alone for development of a large urban area may detrimentally influence the performance of existing land-locked basins and may impede the ability to provide reliable drainage systems needed for future transportation improvements. Rather than relying on infiltration and other alternate BMPs alone, it is recommended that the city supplement these initiatives with a system of gravity or pumped outlets for terminal land-locked ponds in the area to provide redundancy and a practical means to deal with problems that may arise and to facilitate future transportation improvements.*

Response: As noted throughout the Draft AUAR and specifically on page 50, the stormwater management plan proposed for the Northwest Expansion Area doesn't rely on infiltration of runoff in the existing natural basins alone, but instead utilizes a 3 tiered approach to manage runoff.

The infiltration capacity of existing basins will be preserved by use of infiltration BMPs within developed areas and by development approaches that promote open space and limit impervious surface, thereby limiting the runoff volume discharged to the existing basins. As noted on page 51 of the Draft AUAR, the *Draft Subd. 37 Northwest Area Planned Unit Development Overlay District* takes this development approach one step further by specifying that a minimum of 20% of the buildable development area shall be preserved as additional natural/open space. As noted on page 48, the proposed stormwater management plan has also been modeled for a continuous simulation (1982-1987, which represents the longest period of above average rainfall and largest single event of record) and all existing basins recover from and do not continue to have rising water levels throughout the modeled period. However, it should be noted that the City recognizes this concern and has authorized planning for a back-up system of emergency overflows between subwatersheds within the study area. This back-up system would be available, if ever necessary, to supplement the stormwater management plan.

- *Please note that when exploring infiltration initiatives, more scientific data such as actual soil percolation tests may be required to test the actual infiltration rates of particular locations. You may want to keep this in mind as soil boring tests are conducted. Please direct questions regarding these issues to Bruce Irish, of Mn/DOT's Water Resources Section, at 651-634-2154.*

Response: The storm water analysis for the Northwest Expansion Area did include significant scientific data when the infiltration and stormwater approach was developed and modeled. Specifically, the following four important data sources were used:

- Monitored infiltration data from four (4) basins inside the study area, with additional monitoring sites being added (2003 to present).
- University of Minnesota hydrologic analysis of the Northwest Quadrant (2001) examining infiltration and long-term water budgets.
- South Washington Watershed District infiltration data in the Infiltration Management Study (Phase I-1998 and Phase II-2001) and on-going infiltration monitoring (1997-present)
- Literature sources with infiltration data based on soils composition/texture.

However, the City agrees that site specific soil borings and percolation tests should be required during design and implementation of individual site development.

This as well as other site specific design information will be spelled out in detail in the Stormwater Design Manual for the Northwest Expansion Area.

Section 24—Dust, Odors, Noise:

- Residential uses located adjacent to highways often result in complaints about traffic noise. Traffic noise from this highway could exceed noise standards established by the Minnesota Pollution Control Agency (MPCA), the U.S. Department of Housing and Urban Development, and the U.S. Department of Transportation. Minnesota Rule 7030.0030 states that municipalities are responsible for taking all reasonable measures to prevent land use activities listed in the MPCA's Noise Area Classification (NAC) where the establishment of the land uses would result in violations of established noise standards.

Mn/DOT policy regarding development adjacent to existing highways prohibits the expenditure of highway funds for noise mitigation measures in such areas. The project proposer should assess the noise situation and take the action deemed necessary to minimize the impact of any highway noise. If you have any questions regarding Mn/DOT's noise policy please contact Peter Wasko in our Design section at (651) 582-1293.

Response: The City is aware of its responsibilities regarding highway noise. It is addressed on a case-by-case basis, as development proposals are reviewed and approved. Techniques that the City has used previously include increased setbacks, landscaping, and berming.

Section 28: Impact on Infrastructure and Public Services:

- *Mn/DOT has adopted a Statewide cost participation policy. As the city develops a financing plan for these proposed mitigations needs it would be advisable to consult it. It can be found at http://www.dot.state.mn.us/stateaid/res_downloads.html*

The city has proposed two interchanges. The cost participation for these facilities is as follows:

- **Interstates (I-494)**
New interchanges and grade separations on existing freeways are frequently requested by local units of government to enhance local access and transportation systems. The addition of interchanges can be detrimental to freeway operations because they introduce traffic conflicts along the trunk highway. Therefore, all costs associated with a new interchange or grade separation on an existing freeway must be approved by Mn/DOT and will typically be 100% local responsibility. These costs will include any improvements, such as auxiliary lanes on the existing freeway deemed necessary by Mn/DOT to accommodate the interchange or grade separation. (See Section I D 3b 2iii of Guidelines for Cooperative Construction Projects):
- **Expressways (TH55)**
Mn/DOT has a separate cost participation policy for interchanges and grade separations. Our participation is limited by that policy and at the current time, this

has not been identified as a need. (See Section 1 D 3b 2iv of Guidelines for Cooperative Construction Projects):

Response: The City has completed additional Traffic analyses that projects the potential impacts of the proposed development without the two interchanges proposed in the City's Comprehensive plan. This Supplemental Analysis is included in the Attachments to this Final AUAR. The City is willing to work with MnDOT, Dakota County, and others in the area on multi-jurisdictional planning for future transportation infrastructure to serve the larger area.

- *As you may be aware, the City of Eagan is also proposing a development that would affect traffic operations on their local system as well as on the Trunk Highways and Interstate in the nearby area. In light of this, we suggest that the two cities coordinate the proposed developments with one another in terms of accurately assessing traffic impacts to the roadways in this part of the metro area. Since more than one city is involved, Mn/DOT would be willing to participate in a multi-jurisdictional effort to look at transportation infrastructure needs and would be open to exploring partnership opportunities both Inver Grove Heights, Eagan and other affected municipalities in this impact area.*

Response: Eagan and Inver Grove Heights have already been communicating and coordinating our respective planning efforts. The City of Inver Grove Heights is willing to participate in a multi-jurisdictional effort with MnDOT, Dakota County, the City of Eagan and other stakeholders in the area to look at transportation infrastructure needs and partnership opportunities.

- *Mn/DOT requests that Inver Grove Heights commit to a monitoring program in an effort to link permitted development to the capacity of the surrounding road network. Traffic levels would be reported as various stages of development are proposed (e.g. 25%, 50%, 75% and full build out) as a check on the development program and its impact on the regional road network. This report should include analysis on all segments analyzed in the AUAR.*

Response: The City will work with MnDOT and Dakota County to properly monitor and determine the appropriate timing for improvements to the roadway systems. This could be incorporated into a regional examination of the area through a multi-jurisdictional effort with area stakeholders.

- *If Inver Grove Heights proceeds forward with interchanges proposals, Mn/DOT requests that in addition to the operational modeling described under traffic forecasting and permitting, that an Interchange Management Plan be developed for each of the interchange project (existing and proposed) in the project area. Please refer to the attached "Suggested Interchange Area Management Plan Contents".*

Response: The City agrees that there may be a need for an Interchange Management Plan for each of proposed projects. However, the potential traffic from the AUAR area is only a

proportion of the traffic that will be served by the interchanges. The City supports the development of such interchange plans through a multi-jurisdictional transportation planning effort. A general consensus on the need for such an effort in this area was developed at a meeting with local governments and transportation agencies on August 31, 2005. The City will be happy to participate in this effort.

Minnesota Department of Natural Resources

Item 6a. Description

...The AUAR mentions the use of a variety of low impact development techniques to protect high quality natural resources...The AUAR misses an opportunity to take advantage of practices and technologies to minimize land disturbance, preserve effective open space, protect natural processes and link green infrastructures. DNR recommends that the City re-evaluate its approach towards Low Impact Development

Response: The City's approach and controls that will implement a LID approach are discussed throughout the AUAR. Item 10 discusses the protection of high-quality natural areas through implementation of the City's Natural Resource Inventory and Management Plan. The plan included an inventory and classification of natural areas in the community. The City has adopted policies to protect the Manage 1 and Manage 2 upland and wetland communities identified in the plan. The plan also identifies greenway corridors that will link the significant natural areas in the community.

The City's proposed subdivision ordinance also uses LID strategies, including mandatory open space and reduced impervious cover through narrower roads, reduced setbacks, and minimum parking spaces. The ordinance will include protection of natural areas and storm water infiltration and management areas as open space, while shifting development to more appropriate areas. The City's storm water manual will identify a range of practices to be used to minimized disturbance and manage stormwater that are typically classified as LID strategies. The proposed sanitary sewer and water systems have also been planned to avoid impacts to the higher quality natural areas and stormwater infiltration basins.

The City believes that the full range of strategies and controls discussed throughout the AUAR analysis and in the Mitigation Plan represent a broad-based Low Impact approach to development of the Northwest Expansion Area.

Page 1—Item 10. Cover Types

Table 10.1 indicates that the anticipated development of the study area will convert 293 acres of woodland/brushland to residential or commercial land use...Regardless of the quality of the woodland, this is a significant amount of conversion. In the absence of a comprehensive forest/tree inventory providing at least a tree tally with average tree diameter and species composition, it is difficult for DNR to provide substantive comments on either the ecological effects of the potential timber harvest and harvesting of other forest products. Depending on the condition of the wood that is removed, the City may elect to market it as sawlog, landscaping material, firewood, or bio-fuel for the production of energy.

Response: The City's Natural Resource Inventory and Management Plan inventories and classifies upland areas in the community based on their ecological quality. The

City has adopted policies to protect the Manage 1 and Manage 2 (highest quality) upland communities identified in the plan. In addition, the City's Tree Preservation Ordinance will require that developers identify, size and count significant trees, and replace any that are lost in land development activities, based on the formula included in the ordinance. Thank you for your suggestions on dealing with timber removed as a result of development.

Mitigation Plan

The DNR strongly recommends that mitigation includes protection of existing upland and wetland open spaces.

Response: The Mitigation Plan adopts the recommendations of the City's Natural Resource Inventory and Management Plan, including the protection of natural areas classified as Manage 1 or Manage 2 as open space. The City's new subdivision ordinance also proposes the protection of these areas plus the areas identified as storm water basins as open space—overall a protection of 20 percent of each proposed development areas as open space. The City is committed to protection of significant open space as the Northwest Expansion Area develops, and is adopting policies and ordinances to implement this goal.

Dakota County

Summary Comments

Overall, we support the general concept for urban development land uses, and we support the City's proposed use of innovative methods for management of stormwater and wetlands. However, County staff are concerned about the trips that will be generated by the anticipated development and the negative impact on the County and State roadway systems that will occur.

County staff suggest that the City meet with County and State agency representatives to discuss how to deal with the proposed road infrastructure needs for the area and how the changes should be coordinated with neighboring communities. We would be available to facilitate or participate in such discussions.

Response: Thank you for your comment, and the support of the general land use and development concept analyzed in the AUAR. The City concurs with the County's concern regarding the potential impacts of development in this part of the county on roadway systems. The City is willing to participate with the County, other cities, and transportation agencies in a multi-jurisdictional planning effort to address common concerns on the roadway system in the area, as discussed at the meeting with these organizations on August 31, 2005.

Item 6 – Description, Part a, Anticipated Types and Intensity of Development

County staff support these (Low Impact Development) techniques and find them to be consistent with the goals and policies of the Dakota County Environment and Natural Resources Management Policy Plan.

Response: Thank you for this comment.

The DAUAR states that “the land use plan for the Northwest Expansion Area has changed in some minor respects from the land use plan included in the City's Comprehensive Plan, but the overall residential density of approximately 3 units per acre remains the same for the area. The proposed land use plan is therefore consistent with the adopted Comprehensive Plan.”

County staff agree that the types of proposed land uses for the Northwest Expansion Area may be “consistent” with the City's comprehensive plan. However, the intensity of development and the trips that will be generated from the area differ significantly from the 2025 Travel Demand Model traffic forecast that Dakota County prepared based on land use information received from the City in 1999/2000. The County's 2025 forecast for the Northwest Expansion Area is 30,000 Average Daily Traffic (ADT); the estimated trips from the DAUAR indicate over 90,000 ADT – an increase of over 200 percent.

Response: As discussed at a meeting with the County and other transportation organizations on August 31, 2005, the differences between the County's traffic

demand forecast and the City's analysis in the AUAR is a matter of timing or phasing. The County has anticipated the types and magnitude of development proposed for the AUAR area, based on the City's Comprehensive Plan, but had anticipated a much longer phasing of this growth than is anticipated in the AUAR.

The City's Comprehensive Plan anticipated that development in the AUAR area would start in 2000 and extend to 2020. The commencement of development has been deferred but full development is still expected to take until 2020. The exact timing is dependent, in part, on the market. Nonetheless, the City recognizes the need to time development with the infrastructure construction. This will be done through the cooperative planning efforts of both the City and County, including multi-agency traffic studies, comprehensive plan amendments, capital improvement plans, platting and other planning efforts.

The traffic study in the DAUAR shows 152,183 trips will be generated by the proposed land uses – a net gain of 92,000 new trips to the roadway system. As a result, the City is proposing substantial infrastructure changes that go beyond those in the County's needs map. This change in land use plans and corresponding need for roadway system improvements should be dealt with through a collaborative effort with the neighboring cities, Dakota County and the Minnesota Department of Transportation (MnDOT). The issue of regional need versus development-driven plans will be key to the discussion.

In addition, the transportation chapter of the City's comprehensive plan (page 91) uses the County's year 2020 volume projections for Inver Grove Heights. The DAUAR states that the proposed development in the Northwest Area of the city "will occur over the next 20 years", which means to the year 2025 (page 12). This timeline goes beyond the planning horizon of the City's 2020 Comprehensive Plan, and beyond the 2025 traffic modeling estimates that Dakota County prepared, based on the land uses in the City's adopted 2020 comprehensive plan.

For the above reasons, County staff suggest that the City prepare an amendment to the 2020 Comprehensive Plan, that will include more recent data regarding the Northwest Expansion Area and will address infrastructure/development staging issues.

Response: As noted at the interagency transportation meeting on August 31, 2005, the development-driven needs analyzed in the AUAR and by the City of Eagan in a parallel planning study help to illuminate the need for regional planning for transportation infrastructure in the area between I-35E and Highway 52 in Dakota County. Much of the growth that is driving the needs for infrastructure improvements in this area comes from other growing communities in Dakota County.

While the City is planning a Comprehensive Plan amendment to update the plan based on the AUAR analysis, discussions with Dakota County and other organizations also point to the need for an inter-jurisdictional planning effort related to regional transportation infrastructure in this area. The City is willing to participate with other local communities and the transportation agencies in this effort.

Item 6, Part b: Infrastructure Planned to Serve the Development

The overall roadway system needs for this development are described throughout the DAUAR and are listed on page 91, Table 21.4, "2025 lane recommendations". These needs are based on the traffic that will be generated by the proposed development.

County staff prepared a table (attached) that shows the County's 2025 Travel Demand Model forecast of Annual Average Daily Traffic (AADT) and future needs. The needs identified by the City in the DAUAR would be a tremendous change, compared to the current system needs. A change in development plans of this magnitude, required interchanges and roadway expansion beyond the anticipated needs will have major regional impacts on the system.

County staff suggest that the City add the County's existing 2025 Travel Demand Model AADT forecasts and the County highway lane needs to Table 21.4 in the DAUAR, to show the contrast between the anticipated needs and the recommendation needs to accommodate the proposed development. Also, the headings on the table should be modified to clearly identify AADT with the proposed development and AADT with the base line condition.

Response: The table noted in the comment is shown below. It is apparent that the land uses for this DAUAR must be different than those used in the County's 2025 Model. The City is committed to working with the County to provide the needed data so that the County can update their model and review the highway needs map.

2025 Lane Recommendations

Road	Segment	County 2025 Forecasts		DAUAR 2025 Projections	
		Volumes	Lanes	Volumes	Lanes
CSAH 63 (Argenta Trail)	North of CSAH 26, South of I-494	6,000	2	29,575	5/6 ^A
	South of CSAH 26, North of TH 55	8,500	2	26,700	5/6 ^A
	South of TH 55	9,800	2	20,950	4
TH 3 (S. Robert Trail)	North of CSAH 26	9,100	4	21,250	4
	South of CSAH 26	9,800	4	19,925	4
	South of TH 55	10,700	4	18,650	4
CSAH 73 (Babcock Trail)	North of CSAH 26	2,700	2	8,850	2/3 ^A
	South of CSAH 26	2,800	2	9,200	2/3 ^A
CSAH 26 (70th Street)	West of CSAH 63	18,000	4	20,850	4
	East of CSAH 63, West of TH 3	18,000	4	30,225	5/6 ^A
	West of TH 3, East of CSAH 73	16,000	4	25,175	4
	East of CSAH 73	18,000	4	17,700	4

^A – Number of lanes will depend on number and type of roadway access points.

The correct name of "CR 63" north of Trunk Highway 55 is County State Aid Highway (CSAH) 63. The correct name of "CR 73" north of TH 55 is CSAH 73. The correct name of "CR 26" is CSAH 26. Please amend the DAUAR to include these corrections.

Response: We will include these changes in the Final AUAR.

Part c. Anticipated Staging of Various Developments and of the Infrastructure, and How the Infrastructure Staging Will Influence the Development Schedule:

The DAUAR states that "Development of the area will occur over the next 20 years. The pace of development will depend on market conditions and individual property owner decisions regarding development or redevelopment. Infrastructure will be staged so that necessary sewer, water, roadway and other infrastructure is in place to accommodate the

proposed development. Some roadway infrastructure development will depend on the plans and schedule of the Minnesota Department of Transportation and Dakota County."

County staff suggest that the above language be amended to: (a) more fully describe how proposed development will be staged to follow the sewer service Utility Phasing schedule and map in the City's 2020 comprehensive plan (instead of infrastructure "accommodating" the timing of the proposed development), and (b) state that the City will not approve development plans that require non-local roadway or interchange improvements until the responsible agency has planned for such projects and allocated funding in their capital improvement plans.

Response: The Comprehensive Plan anticipated that development would commence in 2000 and extend through 2020. The start of development has been deferred but it is still expected that full development will not occur until 2020. It is noted that full development of the area is dependent upon many factors, one of which is the prevailing market demands now and into the future. The phasing plan in the Comprehensive Plan may be modified as a result of the market. Nonetheless the development has to be coordinated with the construction of infrastructure. The coordination between the City and County will be accomplished through multi-jurisdictional traffic studies, comprehensive plan amendments, capital improvement plans, platting, and other planning initiatives.

Item 17 – Water Quality: Surface Water Runoff

County staff support the proposed management and mitigation plans, and the proposed alternative stormwater management approach, and find them to be consistent with the goals and policies of the Dakota County Environment and Natural Resources Management Policy Plan.

Response: Thank you for this comment

Item 21 - Traffic

General comment:

County staff suggest that the DAUAR be revised to: (a.) reflect the following County comments on the magnitude of the City's proposal – as compared to the County's identified needs for this area of Inver Grove Heights; and (b.) to provide a plan for the staging of the proposed roadway system infrastructure that is coordinated with adjacent communities and with Dakota County and MnDOT plans.

Response: The County roadway needs can be best revised upon revision of the County transportation model. The response notes additional needs. A staging of roadway systems is highly dependent upon development timing and proposals. Provision of staging is beyond this AUAR, but the City is willing to provide a concept plan regarding infrastructure phasing. However, the anticipated development and the timing of that development is the key to such a plan.

The traffic study in the DAUAR shows 152,183 trips will be generated by the proposed land uses; this will result in a net gain of 92,000 new trips to the system (Table 21.3 page 87). The County's 2025 Travel Demand Model -which used the land use data from the city's 2020 comprehensive plan - shows just under 30,000 trips generated (see amended Tables 21.3 and 21.4, attached).

Response: The trip generation was based upon the City's land use, which may be different from the land use assumed by the County's model. In particular, the City assumed commercial land uses around the proposed interchanges. Given the higher trip generation of commercial land uses, the commercial areas may explain the differences in trip generation between the County' model and the City's DAUAR. The City will work with the County to resolve any differences in the land use assumed for the County model

County staff recommend that the DAUAR be amended to list the current trip generation for each Traffic Assignment Zone (TAZ) and the County's 2025 forecast of trip generation based on the Dakota County Travel Demand Model, with the data from the traffic study in Table 21.3. Also, the column headings should be renamed as needed, to distinguish between current projections and projections that will result from the proposed trip generation.

Response: The City is willing the aid the County in the provision of land use data as the County revises its model. The table noted in the comment is provided below.

Estimated 2025 Vehicle Trips

TAZ	County 2025 Model Daily Forecasts	DAUAR 2025 Daily Volume Projections
1	1,178	6,923
2	2,688	26,951
3	6,618	16,647
4	1,375	31,852
5	3,668	40,096
6	6,339	13,742
7	2,524	2,412
8	4,587	11,074
9	462	2,486
Subtotal*	29,439	152,183

* Trip generation before deductions for pass-by, multi-use, and diverted trips. This is not the expected new traffic on the roadway system.

The County's 2025 Travel Demand Model AADT forecast and future roadway needs are shown in the attached table. The needs identified in this study are tremendous, when

compared to the current system needs. A change in development plans of this magnitude will require interchanges and widening beyond those anticipated, and will have major regional impacts.

County staff recommend that the DAUAR be amended to add the County's existing forecast of 2025 Travel Demand Model AADT's and the County needs map highway needs to this table, to show the difference from the recommendations needed to accommodate this development. Also, the column headings should be modified to clearly identify AADT with development and AADT with the base line condition.

Response: Comments noted. The two tables showing the DAUAR forecasts in comparison with the County's forecasts and needs are shown in previous responses to the comments.

County staff suggest that a more in-depth understanding of the roadway needs would be helpful, along with new access spacing for the area, to enable the City and County to manage a system expansion of this magnitude. It is not sufficient to simply widen roadways and upgrade traffic controls at intersections.

Response: The City will work with the County in access management on the study corridors to ensure proper spacing of intersections and proper geometry.

The roadway needs proposed in the DAUAR are in direct conflict to proposals for highway system changes in adjacent cities (specifically, the TH 149/I-494 interchange in Eagan).

Response: The City is in contact with the City of Eagan and has held an initial meeting with its neighbors, the County, MnDOT, and the FHWA to discuss the regional aspects of growth in this area and the need for a multi-jurisdictional study. The City supports this effort and will be an active participant in future studies of the study area and its surrounding areas.

Also, future road segment needs are not identified on the figures that show the proposed roadway geometry (Figure 21-7).

Response: The figure is intended to show the intersection improvement needs at the study intersections. The corridor improvements are shown in Table 21-4, 2025 Lane Recommendations.

County staff suggest that a more detailed assessment of road segment needs is needed, to determine the improvements that will be required to serve this development. A more detailed geometric plan is also needed to address impacts from traffic that will be generated from this development. Recommendations for system improvements should be based on study and discussion that includes all of the affected municipalities and agencies.

Response: The DAUAR provides roadway segment and lane needs for critical locations in the study area. Other improvements or refining of the improvements is a task that is

best accomplished as development is proposed. The City will require a traffic study of each development in order to help identify needs and to continue the refinement of the needed local collectors.

CSAH 63 (between I-494 and TH 55):

The existing road segment is two lanes. The DAUAR indicates a need for 5 or 6 lanes in 2025. The DAUAR proposes future interchange ramps at CSAH 63 and TH 55; and also "assumes an interchange at [CSAH] 63 and Interstate 494 would be constructed and in-place for the future condition."

The County's recent practice has been to use access management tools to manage capacity on 4-lane divided highways instead of building 6-lane highways. Most existing County highways that meet 6-lane requirements also have access spacing restrictions of one-half mile. County highways with traffic that exceeds a 6-lane divided highway capacity often exhibit unique operational challenges, because at-grade intersections and traffic signals can limit the ability of the additional lanes to significantly increase capacity.

Response: The need for a 5- or 6-lane roadway on CSAH 63 was based upon the planning level assessment of projected ADT and the intersection analysis of CSAH 63 with CSAH 26, which also indicated a need for 6 lanes to provide an adequate level of service. Access management tools will be utilized to help protect roadway capacity. The interchanges are suggested mitigation to serve the land uses assumed in the study.

For this segment of CSAH 63, the County's 2025 Transportation Plan indicates:

- *the functional classification is "collector" (the DAUAR shows it as "Community Collector");*
- *traffic on the roadway will exceed its design capacity in the year 2025.*

The County's current Plat Review Needs map shows a two-lane road with 50 feet of half right-of-way for urban design.

Response: Comments noted.

The County's 2025 Transportation Plan shows a need for a "half-diamond" interchange in the year 2025 at CSAH 63/TH 55, but no interchange at CSAH 63/I-494. Also, MnDOT is studying a proposal to extend the ramps at the TH 149/I-494 interchange to the east. This change would shorten the distance between that interchange and the proposed CSAH 63/I-494 interchange. County staff suggest that the City work with MnDOT and the City of Eagan on this proposal.

Response: The City is in contact with the City of Eagan and has held an initial meeting with its neighbors, the County, MnDOT, and the FHWA to discuss the regional aspects of growth in this area and the need for a multi-jurisdictional study. The City supports this effort and will be an active participant in future studies of the study area and its surrounding areas.

County Road 63 (south of TH 55):

The existing road segment is two lanes. The DAUAR indicates a need for 4 lanes in 2025. The County's 2025 Transportation Plan identifies this segment of County Road 63 as a potential candidate for jurisdictional transfer from the County to the City.

Response: This issue will require further discussion between the City and the County before this transfer could occur. The projected traffic for this roadway suggests this potential transfer may not be in the best interest of the City or the County.

CSAH 73 (south of I-494 to TH 55):

The existing road segment is two lanes. The DAUAR indicates a need for 2 or 3 lanes by 2025.

For this segment of CSAH 73, the County's 2025 Transportation Plan indicates:

- the functional classification is "collector" (the DAUAR shows it as "Community Collector");
- traffic on the roadway will exceed its design capacity in 2025.

The County's current Plat Review Needs map shows a two-lane road with 50 feet of half right-of-way for urban design.

Response: Comments noted.

CSAH 26 (from Eagan city limits to CSAH 73):

The existing road segment from the Eagan border to west of TH 3 is two lanes. The DAUAR shows the part of the roadway that is located west of CSAH 63 will need 4 lanes by 2025; the part that is located from east of CSAH 63 to the west of TH 3 will need 5 or 6 lanes by 2025. The existing road segment from the west of TH 3 to east of CSAH 73 has 2 lanes in some parts and 4 lanes in other parts. The DAUAR shows this part of the roadway will need 4 lanes by 2025.

For this segment of CSAH 26, the County's 2025 Transportation Plan indicates:

- the functional classification of the highway segment is "A-Minor Arterial" (same as DAUAR);
- this roadway segment will be under capacity in 2025.

The County's current Plat Review Needs map shows a 4-lane divided road with 100' of half right-of-way.

Response: Comments noted.

The Mitigation Plan in the DAUAR recommends that the portion of TH 3 from south of I-494 to south of TH 55 "should be widened to provide four lanes along its entire length in the study area."

TH 3 is classified by MnDOT as a "Preservation" highway. This means that the existing two-lane roadway will be maintained as needed, but there are no plans or funding to add lane capacity.

The County's 2025 Transportation Plan calls for:

- a north-south principal arterial study in the TH 3 corridor area extending north-south from I-494 to CSAH 42 and east-west between CSAH 31/33 and CSAH 73; and*
- collaborating with MnDOT to study the needs of the TH 3 corridor between the cities of Inver Grove Heights and Farmington.*

County staff suggest that the City review the proposed development in relation to the goals, policies and strategies from the Dakota County 2025 Transportation Plan, which can be viewed at the Office of Planning webpage on the Dakota County website:
www.co.dakota.mn.us

Response: Comments noted.

County staff recommend that the City plan for a good interior network of local roads to provide land access in the area that is in accordance with access spacing guidelines.

Local property access to CSAH 63, CSAH 26 and CR 73 would have to be via existing or proposed public roadways based on the anticipated traffic volumes.

The proposed AADTs and recommended lane expansion needs will require greater access spacing than the current land use plan. Dakota County will need to consider this more restricted spacing, along with the proposed County highway needs, as each development proposal adjacent to a County road is reviewed by the County Plat Commission.

Response: Comments noted. The City will work with the County to ensure proper access management along the County roads within this study area.

CSAH 63 and CSAH 73 are classified as collectors and are not eligible for federal funds.

Response: Comments noted.

County staff suggest that City staff meet with our County Transportation Department staff to discuss the findings and recommendations in greater detail, since none of the proposed road projects are identified in the County's 2025 Transportation Plan or Plat Needs Map.

Response: The City met with County Transportation Department staff, MnDOT staff, and others on August 31, 2005, to discuss the findings and recommendations. Based on the discussion at this meeting, additional Traffic analyses were completed, and are included in the Attachments to this Final AUAR, along with a revised Mitigation Plan. The City is also willing to continue to meet with neighboring cities and Transportation agencies on multi-jurisdictional planning to address the transportation system needs in this area of Dakota County.

County staff suggest that the City consider adding transit options and bicycle and pedestrian amenities as alternatives to automobile trips for this area.

Response: Comment noted. The City will work to provide multi-modal options for residents and workers in the study area.

Item 27 – Compatibility with Plans

As noted in our comments on Section 6, County staff recommend that the City prepare a plan amendment - due to the large increase in trip generation, need for roadway improvements, and to address the staging of development based on the availability of funding for the proposed roadway and interchange projects.

Response: The Comprehensive Plan anticipated that development would commence in 2000 and be completed in 2020. Though the initial development has been deferred, it is expected that full development will not occur until 2020. The Comprehensive Plan also identified the interchanges and other roadway improvements. The timing of development will have to be coordinated with the timing of infrastructure. This can be accomplished through the cooperative efforts of the City and County with multi-agency traffic studies, comprehensive plan amendments, capital improvements programs, platting, and other planning initiatives. It is anticipated that the City will revise their comprehensive plan as mandated recently by the Metropolitan Council.

Section 28 – Impact on Infrastructure and Public Services

The trip changes that will be generated from the proposed development greatly exceed the forecasted trips in the County's 2025 Travel Demand Model and will result in an overwhelming negative impact to the County highway system. The DAUAR (and the City's Comprehensive Plan) should be amended to include policies that condition the City's approval of projects in the Northwest Area on the availability of planned and funded roadway infrastructure that is needed to support each phase of development. Dakota County staff are willing to meet with City staff and MnDOT staff to discuss issues of planning and coordination of services for this area.

Response: These items will be included in the Final Mitigation Plan.

Item 29 – Related Developments; Cumulative Impacts

The DAUAR indicates that there will be sufficient available or planned capacity in the sewer and water systems that will serve the area. The DAUAR also describes approaches to manage stormwater and preserve wetlands and open space for wildlife habitat. However, the DAUAR has not addressed the fact that Dakota County and MnDOT are not currently planning for the roadway or interchange improvements that will be needed to serve the

proposed development. Without a viable staging plan for roadway infrastructure, the proposed development will have a significant negative impact on County roads.

Until the County and MnDOT have prepared plans and allocated funding for roadway projects to serve the Northwest Area, County staff recommend that the City limit new development in the area to locations that can be served by existing and fully-funded planned infrastructure.

Response: The City has completed additional Traffic analyses that identify impacts from the proposed development if the new interchanges identified at I-494 and Argenta, and Highway 55 and Argenta, are not constructed.

The City met with Transportation agencies and the City of Eagan on August 31 to discuss transportation needs in this portion of Dakota County. As noted at that meeting, even if the proposed development identified in the AUAR for the Northwest Expansion Area did not occur, there would be a need to improve the Transportation system in this area to handle growth occurring in other Dakota County communities. At that meeting, the Cities indicated that they are willing to participate in multi-jurisdictional planning to address transportation system needs in the area.

Mitigation Plan

Improvements identified in the DAUAR to address the proposed development are limited to current roadways. The "proposed connection to Eagan" does not have volume estimates.

County staff recommend that an area wide approach (with new internal street connections, expansion and an access management plan consistent with the new land use plans for the area) is needed to address the proposed addition of more than 90,000 new trips to the system. The mitigation recommended in this study is well beyond the scope of plans in Dakota County's 2025 Transportation Plan. A more comprehensive assessment that includes all affected agencies is needed to address the highway system changes as suggested by the DAUAR.

Response: The City of Inver Grove Heights is willing to participate in a comprehensive assessment and planning effort related to the transportation system in this area.

City of Sunfish Lake (Northwest Associated Consultants, Inc)

Item 21: Traffic

Proposed I-494 and CR 63 Interchange. The City of Sunfish Lake's Comprehensive Plan adopted in 1998 and subsequently approved by the Metropolitan Council states opposition to the proposed interchange. The City of Sunfish Lake holds firm in its opposition to this interchange and has grave concerns with the potential negative impacts such an interchange would have on Sunfish Lake residents and infrastructure.

Response: The City of Inver Grove Heights met with transportation agencies on August 31, 2005, to discuss the Traffic analysis and comments received from these agencies. One of the conclusions of this discussion was the need for multi-jurisdictional planning for the transportation system in this area, given the growth that is occurring in all Dakota County communities south of Interstate 494. The City of Inver Grove Heights will participate in this effort, and hopes that other communities that may be impacted by additional traffic and proposed transportation system improvements, including Sunfish Lake, will also participate.

Increased Traffic Generation. The City of Sunfish Lake has concerns with the proposed expansion of South Robert Trail/Trunk Highway 3 and County Road 63/Argenta Trail. The AUAR Report proposes expansion of TH 3 to four lanes from north of I-494 to Highway 55, and expansion of CR 63 to five or six lanes south of the proposed interchange. The AUAR fails to mention proposed expansion of CR 63 north of the interchange, which would inevitably be necessary to accommodate increased traffic from the proposed interchange, traffic generated by the proposed land uses within the AUAR area, and the widening of CR 63 south of the interchange. Further, expansion of both TH 3 and CR 63 within the City of Sunfish Lake's jurisdiction would not only be necessary to reasonably accommodate increased traffic generation from the proposed interchange and roadway expansions with the Northwest Expansion area, but would have serious impacts on Sunfish Lake's infrastructure and residents.

Response: Based on comments received on the Draft AUAR, the City of Inver Grove Heights has completed additional Traffic analyses that identify impacts to regional roadways if the proposed interchanges at I-494/CSAH 63 and Highway 55/CSAH 63 are not built. This information is included in the Attachments to the Final AUAR. Based on this analysis and the increased traffic generated by growth in many Dakota County communities south of Interstate 494, the City is willing to participate with all communities affected by growth in this area and the Transportation agencies in a planning process to address the impacts on infrastructure in this area. The City hopes that Sunfish Lake will also participate to express its concerns regarding transportation infrastructure, and to help in identifying acceptable solutions that address the needs of all communities.

Item 6 – Description

Compatible Land Uses. Another concern with the proposed Northwest Expansion Area for residents of Sunfish Lake is that the proposed land uses south of 60th Street, surrounding the southern half of Hornbeam Lake are inconsistent with those currently existing on the portion of the lake within the City of Sunfish Lake. The draft AUAR shows proposed land uses surrounding Hornbeam Lake north of I-494 to be high density residential, while the existing land uses within Sunfish Lake surrounding the northern portion of the lake are low-density, single-family residential. The City of Inver Grove Heights' 1998 Comprehensive Plan identifies this area as being guided for rural density residential. Concern is that existing and new proposed land uses will not be consistent surrounding Hornbeam Lake and potential negative impacts to existing Sunfish Lake residents and conflicts with the Shoreland Overlay District of Hornbeam Lake are apparent.

The Sunfish Lake City Council requests that additional analysis be done to determine the potential adverse impacts high density residential development around the southern portion of Hornbeam Lake will have on Sunfish Lake residents' quality of living and potential environmental impacts to the lake water and shoreland overlay area.

Response: The City of Inver Grove Heights will implement its Shoreland ordinance and other environmental ordinances to ensure that development to the south of Hornbeam Lake does not have negative impacts on the lake. The City believes that higher density residential development can be designed to avoid negative environmental impacts to the lake and residential areas in Sunfish Lake.

Item 17 – Water Quality-Surface Water Runoff

The Sunfish Lake City Council identifies the water quality of Hornbeam Lake as a significant issue of concern. The City Council requests that additional measures be taken to redirect drainage away from Hornbeam Lake and/or explore alternative measures for drainage in and around the lake.

Response: The water quality of Hornbeam Lake is also of concern to the City of Inver Grove Heights. The stormwater management approach outlined in the Draft AUAR minimizes nutrient loading, limits the volume of runoff to and improves upon the previously approved stormwater management plan approved as part of the Comprehensive Plan for the City of Inver Grove Heights. However, the City is currently working through the specifics of the area within the Gun Club Lake watershed and will work with the City of Sun Fish Lake to further address this concern.

Item 11 –Fish, Wildlife and Ecologically-Sensitive Resources

The Sunfish Lake City Council has apprehension about the wildlife migration patterns and existing habitat surrounding and within Hornbeam Lake. The Council would like information on how the Northwest Expansion Area's proposed land use changes will impact

the wildlife habitat around Hornbeam Lake and what measures will be taken to assure the least amount of impact to species in that area.

Response: The City of Inver Grove Heights will implement the requirements of its Shoreland Ordinance, its Natural Resource Inventory and Management Plan, and other environmental ordinances as development is proposed in this area. Natural areas around Hornbeam Lake were inventoried by professional ecologists as a part of the City's Natural Resource Inventory and Management Plan. The remaining natural areas to the south of Hornbeam Lake were ranked as Manage 4 (lower quality) resources, as they have been heavily impacted by prior land uses in this area. Interstate 494 already impacts wildlife movement and migration in this area. The City's Natural Resource Inventory and Management Plan indicates that mitigation will be required for impacts to Manage 4 natural areas. In this case, if development is proposed for this area, mitigation will be required to improve habitat quality in this area.

Item 29 – Cumulative Impacts

The AUAR identifies traffic as the only area of impact affecting related developments and/or projects outside the AUAR area and further states that there are no other identified environmental impacts to areas outside the Northwest Expansion Area. The Sunfish Lake City Council strongly disagrees with the notion that additional environmental impacts will not occur outside the AUAR area. The City of Sunfish Lake has in place zoning regulations that preserve the environmental and diminish impacts to the existing ecology wherever possible. The Sunfish Lake City Council feels that the proposed interchange and high density development near a protected, DNR-designated recreational development lake will have obvious environmental impacts. Not only are these proposed land use changes incompatible with the City of Sunfish Lake's Zoning Ordinance and development practices, but also seem inconsistent with the City of Inver Grove Heights' present Shoreland Zoning.

Response: The City of Inver Grove Heights will require that proposed development in this area be consistent with its Shoreland Zoning, Natural Resource Inventory and management plan, and other environmental ordinances in this area. The City believes that the proposed uses can be designed to avoid, minimize or mitigation for impacts in this area.

City of Eagan

General Comment

The City of Eagan Comprehensive Plan designates the property along the Cities' common boundary adjacent to the AUAR study area for Office Service north of Highway 55, for Low Density Residential between Highway 55 and Yankee Doodle Road and for Business Park and Limited Industrial Use between Yankee Doodle Road and the southern AUAR boundary. The City views the proposed Commercial land use adjacent to I-494 in Inver Grove Heights to be consistent with the current and future development of the Waters Office Park and adjacent areas in Eagan. The City also views the proposed Industrial Office land use adjacent to Highway 55 in Inver Grove Heights to be generally consistent with Eagan's Office Service area, although it should be noted that the adjacent land use in Eagan is proposed for development as an institutional use. The City views the Low Density Residential area between Highway 55 and Yankee Doodle Road to be generally consistent with the Bur Oaks development area in Eagan. Recognizing that the need for buffering, screening and other considerations is typically greatest between commercial and residential uses, the City encourages the City of Inver Grove Heights to take this into account in the possible development of the Medium Density and Low Density residential areas along the common boundary, which will abut Eagan's Office Service, Business Park and Limited Industrial uses.

As discussed in more detail in the Transportation System Comments below, the City of Eagan has identified future growth in regional background traffic combined with traffic from the further development of this area of the two cities as a substantial emerging issue. In particular, the region's ability to address these issues is expected to take the concerted effort of the Cities, Dakota County, the Metropolitan Council and MnDOT. The Eagan City Council has directed staff to address this issue in the Transportation section of its next Comprehensive Guide Plan update and to work with the affected agencies to plan for, prioritize and secure funding for upgrades of the County and State road systems and expanded access to Interstate 494.

Response: The City of Inver Grove Heights is also willing to work with the affected agencies and other local communities to plan for, prioritize, and secure funding for roadway improvements needed in the region to address growth planned in Eagan and the Northwest Expansion Area of Inver Grove Heights.

Item 21: Traffic

Figure 5-3 Existing Land Use: All maps/figures should show Yankee Doodle Road extension (149 to 55)

Page 11 Roadway Network: CR 63 ends at TH 55 now. Refer to Yankee Doodle Road (CSAH 28) south of TH 55.

Intersection of CR63 and TH 55 – future interchange of CSAH 28 and TH 55.

Page 79: Reference CSAH 28 (Yankee Doodle Road) vs. CR 62 at TH55 and to south

Response: Comments noted.

Page 88: Should mention/account for traffic generation estimated for NE Eagan Study on 494, 55 and CR 63.

Response: This DAUAR was completed before traffic forecasts were available from the City of Eagan. However, future development in Eagan was a consideration in the background growth on the roadways as well as in traffic shifts to new interchanges on TH 55 and I-494 at CSAH 63. This again suggests the need for a larger regional study to examine a large area on a multi-jurisdictional basis, which is supported by the City. The City met with transportation agencies on August 31, 2005, to discuss the Traffic analysis and comments received from these agencies, including traffic on the freeways. One of the conclusions of this discussion was the need for multi-jurisdictional planning for the transportation system in this area, given the growth that is occurring in all Dakota County communities south of Interstate 494. The City of Inver Grove Heights will participate in this effort, and hopes that other communities that may be impacted by additional traffic and proposed transportation system improvements will also participate.

What if new interchange is not added on I-494? Where would traffic be shifted to?

Response: The City has completed additional analysis as requested, without the proposed interchanges. This Supplemental Analysis is included in the Attachments to this Final AUAR.

Is the background growth on I-494 and TH 55 accounted for? No increase in congestion expected on I-494 and TH 55?

Response: The additional Traffic analysis included in the Attachments to this Final AUAR addresses this issue.

Will TH 55 and I-494 continue to operate at satisfactory levels post-development with no improvements?

Response: The additional Traffic analysis included in the Attachments to this Final AUAR addresses this issue.

Figure 21-5 (Page 89) Traffic: Future interchange spacing on TH55 may not meet MnDOT access management guidelines. NE Eagan Study shows interchanges at west intersection of TH 55 & TH 149 and east intersection of TH 55 & TH 149.

Page 120 Roadway Network: Without additional lanes on 55 and 494, Eagan believes that the impact to regional system will be more than minimal.

Response: Using planning level capacity assumptions, a six-lane freeway facility could be expected to handle approximately 110,000 vehicles per day. The current AADT, from the 2004 MnDOT flow maps is 87,000 (as a note, the DAUAR lists 83,000 from the previous MnDOT flow map). The DAUAR projects 15,550 vehicles added to this portion of the I-494, which, by itself, does can be accommodated by the freeway. However, with other development and general background growth, the corridor could be faced with capacity constraints.

TH 55 is a four-lane expressway from the intersection of CSAH 63 to the west and a four-lane freeway to the east of CSAH 63. Using the lower expressway capacity of a four-lane roadway with turn lanes, TH 55 could be expected to accommodate approximately 32,000 vehicles per day on a planning level basis. Current 2004 MnDOT flow maps lists AADTs of 19,200 or less in this area on TH 55. The projected traffic from the development is expected to add 5,600 or less to this corridor. Even with background growth, the roadway could handle the traffic based upon planning level daily traffic thresholds. However, as shown in the Supplemental Traffic Analysis, at-grade intersections on TH 55 may not be able to sufficiently accommodate the expected growth as a four-lane facility. It is expected that, as an interchange, the traffic on TH 55 and its expected growth could be accommodated in this area.

This leads to the need for a more regional study that will examine a large area on a multi-jurisdictional basis, which is supported by the City. The City met with transportation agencies on August 31, 2005, to discuss the Traffic analysis and comments received from these agencies, including traffic on the freeways. One of the conclusions of this discussion was the need for multi-jurisdictional planning for the transportation system in this area, given the growth that is occurring in all Dakota County communities south of Interstate 494. The City of Inver Grove Heights will participate in this effort, and hopes that other communities that may be impacted by additional traffic and proposed transportation system improvements will also participate.

Item 18: Water Quality--Wastewaters

Page 11 Sanitary Sewer System: There should be some mention of Eagan/Inver Grove Heights Joint Powers Agreement (area south of TH 55)

Response: We will add the following to the Final AUAR: "Most of the area within the AUAR study area, *except for a limited amount of property along the Eagan/Inver Grove Heights border south of TH 55*, which could be served by Eagan through a joint powers agreement, will be served by sanitary sewer from Inver Grove Heights, based on the City's Comprehensive Plan (1998).

Page 64: Should discuss JPA with Eagan for sanitary sewer.

Response: We will add the following to the Final AUAR: "Most of the area within the AUAR study area, *except for a limited amount of property along the Eagan/Inver Grove Heights border south of TH 55*, which could be served by Eagan through a joint powers agreement..."

Figure 18-1 (Page 65) Sanitary Sewer System: This area can/will be served by JPA with Eagan (south of 55).

Response: We will add this information to the Final AUAR, as indicated in the previous comment.

Page 120 Sanitary Sewer System: Should mention sanitary sewer accommodated by Eagan's system (JPA).

Response: We will add this information to the Final AUAR, as indicated in the previous comment.

Item 13: Water Use

Page 30 b. Water Use: Should include discussion of Joint Powers Agreement (JPA) with Eagan.

Figure 13-1 Trunk Water Supply: Indicate JPA area along west boundary of AUAR area.

Page 120 Municipal Water System: Mention water accommodated by Eagan's system (JPA).

Response: We will add the following information to the Final AUAR: The project area will be served by expanding the existing City of Inver Grove Heights' municipal water supply system, except that a small amount of the Northwest Expansion Area south of TH 55 along the Eagan/IGH border could be served by the City of Eagan through an existing joint powers agreement.

Item 17: Water Quality—Surface Water Runoff

From a surface water quality perspective, the AUAR sufficiently and thoroughly addresses all relevant issues to the level of detail expected of such a review. Further, it appropriately indicates the approaches that will be taken to address surface water quality issues in more detail prior to and during specific development of the area. The following should be added to the analysis in the Draft AUAR:

Page 14 Permits and Approvals Required: Gun Club WMO does not issue permits. Inver Grove Heights is LGU for wetland replacement.

Response: We will correct this information in the Final AUAR.

Page 44: AUAR area within GCLWMO may drain to Waters with Restricted Discharges (Fort Snelling State Park fen). AUAR should address revised NPDES permit and Non Degradation.

Response: The City of Inver Grove Heights will follow the requirements of the revised NPDES permit regarding non-degradation of Waters with Restricted Discharges.

Table 17.3 (Page 53): Should include discussion/comparisons of ponds flowing/shared by Eagan (GCLWMO).

Response: This information is available by reference to the currently approved Comprehensive Plan for the City of Inver Grove Heights. With overlay of the AUAR stormwater management approach, discharge rates and volume of runoff delivered to Eagan will not exceed and in most cases will be reduced from results outlined in the City's existing Comprehensive Plan.

Table 17.4 (Page 54): Should include a table for Discharge from the GCLWMO Watershed.

Response: This information is available by reference to the currently approved Comprehensive Plan for the City of Inver Grove Heights. With overlay of the AUAR stormwater management approach, discharge rates and volume of runoff delivered to Eagan will not exceed and in most cases will be reduced from results outlined in the City's existing Comprehensive Plan.

Page 120: Should mention storm water from Northwest Expansion Area accommodated by Eagan's system (JPA)

Response: This information is available by reference to the currently approved Comprehensive Plan for the City of Inver Grove Heights. With overlay of the AUAR stormwater management approach, discharge rates and volume of runoff delivered to Eagan will not exceed and in most cases will be reduced from results outlined in the City's existing Comprehensive Plan.

Item 6: Description

The AUAR appears to address natural resource issues and preservation of the limited tree resource in the study area satisfactorily. The Proposed Development paragraph states that with most of the existing tree vegetation being located in valleys/ravines/hillsides/etc., they will be utilizing "low impact" development techniques to preserve vegetation in the above mentioned areas. Also, that their land use plan features preserving large, open spaces as green areas and as water infiltration areas.

Response: Thank you for this comment.

Item 25c—Nearby Resources

Extensive connectivity of both natural (greenways) and created elements (trails) between NW IGH and NE Eagan should be considered. The City border should not be a hindrance to extensions of new or existing amenities—(under or over pass for 55 ?)

Response: The City of Inver Grove Heights identified potential Primary and Secondary Greenways in the Northwest Area in its Natural Resource Inventory and Management Plan (Figure 10-3 in Draft AUAR). One of the Primary Greenways lies along the Eagan border and crosses into Eagan south of I-494. The City of IGH will work with Eagan to identify opportunities to connect the proposed greenways and trails as they cross city boundaries. Inver Grove Heights will also address the interconnections of greenways and trails in the update of its Park and Trail Plans that is currently underway.

The provision of active recreational areas (playgrounds, game fields, play space, etc) within the new residential areas of NW IGH may be appropriate. Without them, the influx of residents may impact existing Eagan neighborhood parks which have limited capacity. Because development of NE Eagan will be primarily Commercial/Industrial the likelihood of there being a new Eagan park that could provide opportunity for the area is minimal.

Response: The City of Inver Grove Heights Comprehensive Plan proposes four new parks for the Northwest Expansion Area, which would be built as the area develops. The City is also currently considering an update to its Parks and Trails Plan, which will specifically review the plan for parks and trails in this area, and identify any additional needs based on the proposed development.

Item 24: Dust, Odors, Noise:

Aircraft Noise. The AUAR does not appear to make any reference to airport noise impacts from aircraft operating at Minneapolis St. Paul International Airport. The Metropolitan Council Airport Noise Policy Contours one mile buffer area extends approximately ¾ mile into the study area from its western boundary. While the Metropolitan Council reserves land use policy for noise compatibility within this area to the cities, the presence of this possible impact on potential noise sensitive land uses should be addressed in the AUAR. The City of Eagan has discouraged new residential uses in the area southeast of Minneapolis St. Paul International Airport and, while the City respects the City of Inver Grove Heights' authority to determine its policies in this area, it would strongly encourage Inver Grove to analyze this potential impact and address their policies in its regard as part of the AUAR.

Response: The Metropolitan Council comment letter notes that "Implementation of noise controls in this area is optional and at the discretion of the affected community." The City of Inver Grove Heights is aware of the Metropolitan Council Airport Noise Policies for this area, and has addressed this issue in its Comprehensive Plan. Furthermore, the City will require notification to new homeowners, and

recommend use of best practices in construction within the noise buffer zone. We will add this information in the Final AUAR.

City of Mendota Heights

Item 21—Traffic:

The only item of concern for the City of Mendota heights is the proposed interchange on I-494 at Argenta Trail (County Road 63). The Mendota Heights 2002 Comprehensive Plan includes the following statement regarding the proposed interchange: "The City of Mendota Heights is opposed to development of the interchange as it does not believe that there is a need for such a facility." As discussed at the July 19th meeting, the Council remains in agreement with the 2002 Comprehensive Plan, thereby opposing the proposed interchange.

Response: As noted in responses to agency comments, MnDOT and Dakota County have proposed some further planning for transportation infrastructure in the area, including the proposed interchange. This planning would involve the agencies and local communities in the area. The City of Inver Grove Heights agrees with the need for additional analysis on multi-jurisdictional basis to assess the need for new facilities and plan for future infrastructure in the area. The City looks forward to working with the City of Mendota Heights and other stakeholders in this process.

Public Meeting Comments on the Draft AUAR

Public comments were received at several public meetings, including 3 Open House meetings, an Environmental Commission meeting, and a Planning Commission meeting. The comments listed below were comments related to the Draft AUAR (Other issues related to the Northwest Expansion Area were also discussed at the meetings.) Many of the comments received were duplicates of each other. The numbered items below represent a summary of the comments received from the public on the AUAR and related issues. Summarized comments are shown in *italic type*.

Comprehensive Plan, Land Use, and Related Infrastructure Plans

1. *The figures and projections have grossly overstated developable land and potential future units. Density projections do not take into account the topography and natural resources of the area, existing homes, and access issues.*

Response: The City of Inver Grove Heights has completed extensive planning for land use, natural resources and storm water management in the Northwest Expansion Area. The land uses and densities proposed in the Land Use Plan, Comprehensive Plan, and AUAR were based on the results of the City's Natural Resource Inventory and storm water plan for the Northwest Area.

2. *Why is the "proposed land use" figure (5.5) different than the existing comprehensive plan adopted in the past 5 years? Particular concerns about higher density residential and commercial land use designations.*

Response: The different land uses in Figure 5.5 are the result of extensive analysis of land use, natural resources, and stormwater that has occurred since the adoption of the Comprehensive Plan in 1998. The residential densities have changed—some increased and some have decreased—to achieve the City's objectives of providing for stormwater ponding and preserving natural resources and to comply with the Metropolitan Council's requirement of an overall density of three units per acre. The commercial change is the result of the recognition of commercial potential at County Road 63 and Highway 55, and the City's long-standing objective of encouraging commercial development. These refinements will be considered further in subsequent Comprehensive Plan Amendments.

3. *What will stop additional properties from "opting out" of the proposed sewer infrastructure as the four excluded neighborhoods have done? Can the City Council legally stop others from joining these properties?*

Response: The City Council, through the development of its Comprehensive Plan, found that "four existing neighborhood areas in the northwest portion of Inver Grove Heights have unique land use characteristics that warrant special consideration. The primary characteristics that define these areas separately from other portions of the community include lot sizes derived from historical zoning and the extent of existing development. All four of these areas represent established neighborhoods that are not likely to be or cannot be further subdivided over the next two decades.

"In all of these areas, past zoning practices have established substantial concentrations of smaller lots of various sizes. Past zoning has allowed lots of 20,000 square feet, 1-3/4 acres, and 2-1/2 acres. In each case, the neighborhood areas are virtually fully-developed with only isolated lots potentially available for further home construction. In all of these areas, the existing on-site sanitary sewer treatment systems are performing adequately and large-scale problems are not present. As a result, the City anticipates that these areas will not change over the next 20 years, unless environmental problems develop in the future." (pages 67 and 68 of the City's Comprehensive Plan)

4. *I am against the concept of "bonus density" being awarded to buildable area, both on and off site, that creates a massing of units. The AUAR has fixed the numbers relating to this issue to create a direct conflict between the existing Comprehensive Plan and proposed zoning.*

Response: The Comprehensive Plan and subsequent extensive analysis of land use, natural resources, and stormwater recommends the adoption of subdivision requirements that provide for "conservation design" or "cluster housing." This development design does not allow "density bonuses", but does allow "density shifts" from one part of a property to another part of a property. By this means, the City can achieve its objectives of managing stormwater through ponds and infiltration, preserve natural resources identified in its Natural Resource Inventory and Management Plan, and provide for significant amounts of open space. Such regulations will be further considered in the development and adoption of a zoning ordinance specifically for the Northwest Area.

5. *When zoning is placed over this, are protected natural areas included in total acreage? 2) If the H2O and wetlands are protected is this subtracted from total acreage?*

Response: Yes.

Traffic

1. *The plans show a folded diamond interchange at Argenta and Highway 55 as far away from Robert Street as possible. The County, to our knowledge, still has not updated their 2000 plan to reflect a folded diamond interchange.*

Response: The City has discussed this issue with the County, and included additional Traffic analyses related to this interchange in the Attachments to the Final AUAR. The City, County, and other transportation agencies and communities in the area anticipate ongoing, multi-jurisdictional planning efforts related to the transportation infrastructure in this portion of Dakota County. The nature and timing of the interchange at CSAH 63 and Highway 55 will be part of this discussion.

2. *The plans do not show a connection to Eagan on a frontage road basis west and north of the County Road 28/Argenta/Highway 55 intersection.*

Response: As discussions on the interchange continue between the City, Eagan, the County, and MnDOT, issues such as a frontage road will need to be resolved. The City supports a frontage road connection to Eagan if the topography will allow a cost-effective connection.

3. *The traffic density study shows more north-south traffic at the County Road 28/Argenta/Highway 55 intersection than east-west.*
 - *Maybe County Road 28 should run north-south and merge with County Road 63 (Argenta).*
 - *If the state is not considering improvements to Highway 3, addressing the north-south traffic may be up to the county and city.*

Response: The City, County, MnDOT, and other transportation agencies and communities in the area anticipate ongoing, multi-jurisdictional planning efforts related to the transportation infrastructure in this portion of Dakota County. The futures of TH 3, CSAH 63, and CSAH 28 will be part of this discussion.

4. *Given the traffic counts projected by the City of Eagan in its recent study related to development of its northeast quadrant, and the traffic counts in the AUAR, a regional public forum including affected city, county and state governmental entities should be considered next. Such a forum could address:*
 - *Such a forum could address the best way to serve the traffic from Eagan and other cities to the south being routed into Inver Grove Heights by County Road 28 as well as future traffic from development of the Northwest Ara.*
 - *Timing of the Argenta interchange*
 - *Creative financing such as was used for County Road 46 and Highway 52*

Response: City staff met with Transportation agencies and the City of Eagan on August 31 to discuss the Traffic analysis in the DAUAR. The group discussed the need to convene a multi-jurisdictional planning effort related to transportation needs and infrastructure in the area between Interstate 35E and Highway 52 in Dakota County. The City of Inver Grove Heights indicated its willingness to be part of this effort, which could examine the issues identified in these comments.

4. *Proposed future interchange @ I-494 and CSAH 63 needs more analysis and definition with coordinated talks between City of Eagan and Inver Grove, Dakota County and MNDOT and possibly Met Council. This definition impacts many aspects of Eagan's NE Area Study and IGH's NW Area Study and needs to be addressed before the AUAR is finalized.*

Response: City staff met with Transportation agencies and the City of Eagan on August 31 to discuss the Traffic analysis in the DAUAR. The group discussed the need to convene a multi-jurisdictional planning effort related to transportation needs and infrastructure in the area between Interstate 35E and Highway 52 in Dakota County. The City of Inver Grove Heights indicated its willingness to be part of this effort, which could examine the issues identified in these comments.



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MEMORANDUM

TO: City of Inver Grove Heights
FROM: Bonestroo Rosene Anderlik & Associates
DATE: November 10, 2005
PROJECT: Northwest Expansion Area DRAFT AUAR – Supplemental Analysis
RE: Supplemental Traffic Analysis

This traffic analysis is a supplement to the July 2005 Northwest Expansion Area Draft AUAR (AUAR). The Draft *AUAR* assumed interchanges at the intersections of County State Aid Highway (CSAH) 63 with Interstate 494 and with Trunk Highway (TH) 55 would be in place by the analysis year of 2025. Several comments on the Draft *AUAR* were related to the necessary mitigation on existing roadways if the interchanges are not built. The purpose of this Supplemental Traffic Analysis is to re-examine the traffic flow and its impacts without those assumed interchanges.

The project area is shown in Figure 21-1 of the aforementioned document. There were four major roadways analyzed as part of this supplemental review. All four corridors were also examined in the Draft *AUAR*.

- County State Aid Highway 26 (70th Street) – east-west “A” Minor Arterial
- County State Aid Highway 63 (Argenta Trail) – north-south Community Collector Road
- Trunk Highway 3 (South Robert Trail) – north-south “A” Minor Arterial
- County State Aid Highway 73 (Babcock Trail) – north-south Community Collector Road

The following intersections were examined, and analyzed for traffic volumes and approach geometry. The four additional intersections not analyzed in the Draft *AUAR* are listed below in bold font.

- CSAH 63 and CSAH 26
- TH 3 and CSAH 26
- CSAH 73 and CSAH 26
- TH 55 and CSAH 63
- TH 55 and TH 3
- **I-494 and TH 3 EB Ramp**
- **I-494 and TH 3 WB Ramp**
- **TH 110 and TH 3 EB Ramp**
- **TH 110 and TH 3 WB Ramp**

Existing Conditions

Additional turning movement counts were taken at the intersections listed below to more accurately analyze the traffic patterns. This allowed for an accurate illustration of changes that may be necessary to accommodate the expected traffic volumes without the two interchanges on CSAH 63 assumed in the Draft *AUAR*. The additional turning movement counts were taken during the morning and afternoon peak traffic periods on Tuesday, September 27, 2005 for the following intersections:

- I-494 and TH 3 EB Ramp
- I-494 and TH 3 WB Ramp
- TH 110 and TH 3 EB Ramp
- TH 110 and TH 3 WB Ramp
- TH 55 and CSAH 63

The existing configuration of the studied intersections has not changed since the original report. The existing lane configurations can be seen in Figure 21-2 of the Draft *AUAR*.

Assumed Land Use & Volume Projections

The land uses used in the original report were not changed and can be referenced from Table 21.2: *Land Use Types and Sizes per Zone* in that report. The same transportation analysis zones (TAZ) were used as in the Draft *AUAR*. The trip generation associated with the land uses did not change, however the trip distribution did change based on new travel patterns without the assumed interchanges. Therefore, the trip distribution was adjusted to reflect the current situation. The factors representing pass-by trips, multi-use trips, internal trips, and other modes of transportation remained the same for this supplemental analysis.

The traffic distribution was adjusted to reflect proposed new roadways and connections within the study area. One new roadway is an east-west collector connection from the City of Eagan to CSAH 73 that has been proposed by the City of Inver Grove Heights. This collector roadway would be expected to act as a reliever to CSAH 26 and an alternate route across the northern portion of the study area. This collector road is expected to be located on the 65th Street corridor. The other new roadways and connections that were utilized in this study are the 'ring roads'. These ring roads outline a mixed use area within the center of this study, at the intersection of CSAH 26 and TH 3. One of three ring roads is currently constructed in the southeast quadrant. Two other ring roads are planned for the northwest and northeast quadrant of that intersection. There is no ring road planned for the southwest quadrant of that intersection because of the proposed land use plan. The proposed ring roads affect traffic in TAZ 2, 3, and 6, as it was assumed that drivers using those CSAH 26 and TH 3 may use the ring roads to avoid the intersection. These assumptions are consistent with the process used in the Draft *AUAR*.

The projected Average Daily Traffic (ADT) was determined in the same manner as the peak hour volumes. New daily trips generated by the proposed development were distributed to the roadway system according to those new roadways. The existing volumes were increased to account for background growth and reduced to account for the reduction factors mentioned above. Background growth was assumed to be 1.5 percent on TH 3 and CSAH 26 and 1.0 percent on CSAH 63 and CSAH 73, same as in the Draft *AUAR*. Figure 1 illustrates the traffic volumes generated by the proposed development and the distribution onto the roadway network.

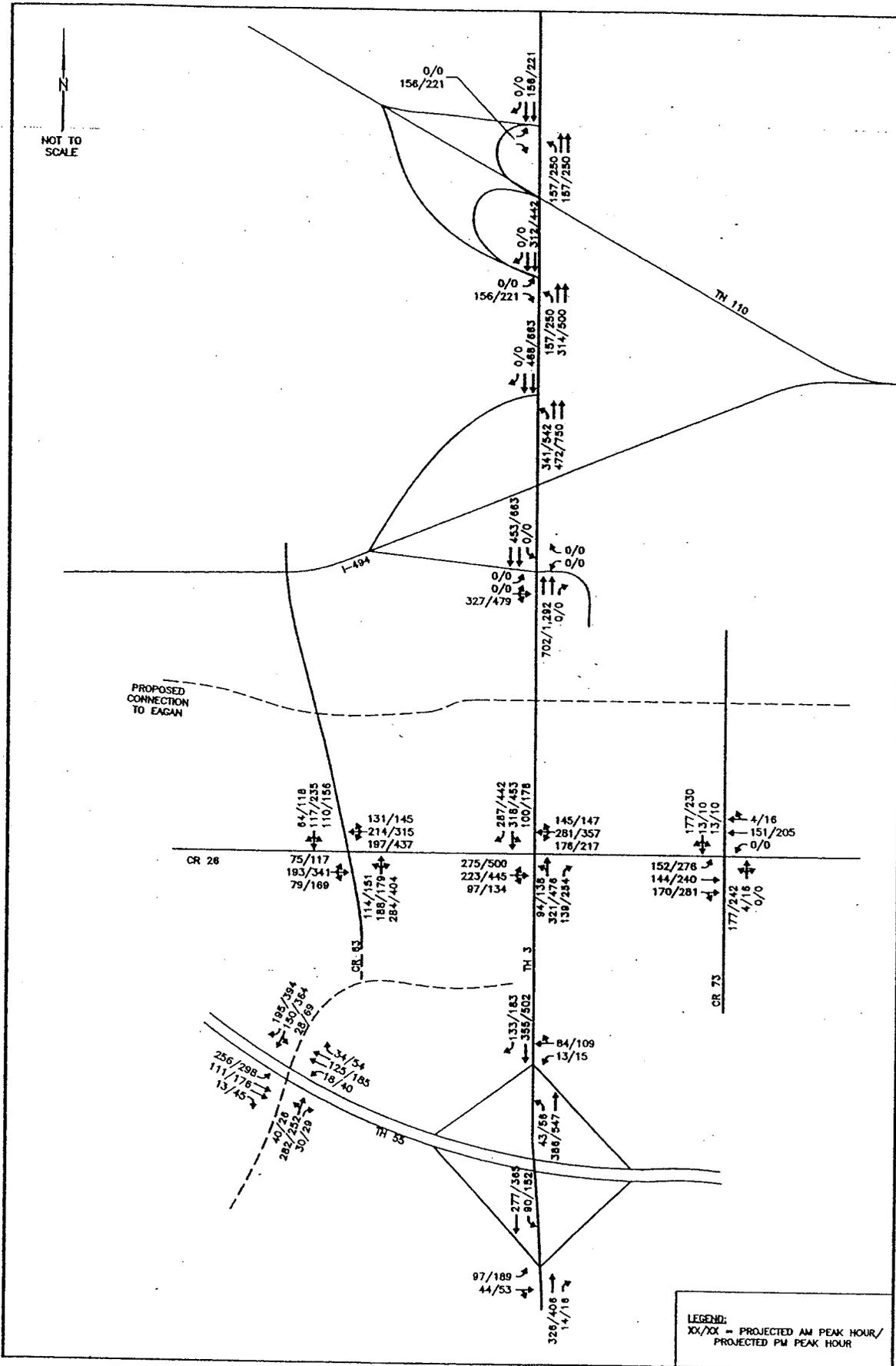


FIGURE 1
 PROJECTED PEAK HOUR DEVELOPMENT VOLUMES
 INVER GROVE HEIGHTS AUAR

Analysis

The daily capacity of the individual roadways was determined in the same fashion as in the Draft *AUAR* and by using Table 21-1: *Generalized Average Daily Traffic Volume Thresholds*. The existing Level of Service (LOS) can be seen in Figure 21-3: *Existing Conditions Level of Service*, of the Draft *AUAR*.

The existing a.m. and p.m. peak hour volumes were analyzed using the Synchro/SimTraffic software package, which uses the methodology presented in the Highway Capacity Manual. The process by which this was done is the same as outlined in the *DRAFT AUAR*. The results are presented in terms of LOS. Detailed LOS results can be found as an attachment at the end of this document. Generally, the intersections within this project area are performing adequately. The lone exception is the intersection of TH 3 and CSAH 26, which currently has individual movements at a LOS E or LOS F and an overall intersection LOS E during the p.m. peak hour. This suggests some improvements are needed today.

The corridors and intersections were re-examined with the projected traffic to determine network improvements that may be needed to maintain adequate traffic operations. The existing geometry is insufficient to accommodate the future traffic volumes. The following section discusses the intersection LOS analyses and some possible mitigation measures. The roadway segment analyses presented was performed at a planning level.

Mitigation

The mitigation recommendations below are options based upon the build-out of existing roads without additional access to I-494. Other mitigation measures may be suitable or more cost effective in comparison to the mitigation presented in this document.

Table 1 compares the existing volumes of the study corridors with the *DRAFT AUAR* traffic projections and the Supplemental Analysis traffic projections. Table 2 compares the existing corridor lanes compared to the recommended number of lanes as determined in the *DRAFT AUAR* and in this report.

Table 1 - Traffic Volume Comparison

Road	Segment	2003 AADT Volume ^A	2025 ADT Volume	
			<i>DRAFT AUAR</i>	Supplemental Analysis
CSAH 63 (Argenta Trail)	North of CSAH 26, South of I-494	2,150	29,575	13,500
	South of CSAH 26, North of TH 55	3,400	26,700	22,050
	South of TH 55	6,500	20,950	16,050
TH 3 (S. Robert Trail)	North of TH 110	24,000	N/A	34,800
	South of TH 110, North of I-494	17,500	N/A	37,800
	South of I-494	11,500	N/A	42,350
	North of CSAH 26	8,200	21,250	35,600
	South of CSAH 26, North of TH 55	6,700	19,925	24,900
	South of TH 55	7,600	18,650	21,000
CSAH 73 (Babcock Trail)	North of CSAH 26	2,450	8,850	9,600
	South of CSAH 26	2,220	9,200	9,100
CSAH 26 (70th Street)	West of CSAH 63	6,000	20,850	22,350
	East of CSAH 63, West of TH 3	5,700	30,225	30,175
	East of TH 3, West of CSAH 73	7,200	25,175	26,700
	East of CSAH 73	10,000	17,700	17,700

^A - Annual Average Daily Traffic from MnDOT flow maps

N/A - Not Applicable

Table 2 - 2025 Lane Recommendations

Road	Segment	Number of Lanes		
		Existing	Recommended in <i>DRAFT AUAR</i>	Recommended in Supplemental Analysis
CSAH 63 (Argenta Trail)	North of CSAH 26, South of I-494	2	5/6 ^B	3/4 ^B
	South of CSAH 26, North of TH 55	2	5/6 ^B	4/5 ^B
	South of TH 55	2	4	3/4 ^B
TH 3 (S. Robert Trail)	North of TH 110	4	N/A	6
	South of TH 110, North of I-494	4	N/A	6
	South of I-494	4	N/A	6/8 ^B
	North of CSAH 26	2	4	5/6 ^B
	South of CSAH 26, North of TH 55	2	4	5
	South of TH 55	2	4	4
CSAH 73 (Babcock Trail)	North of CSAH 26	2	2/3 ^B	2/3 ^B
	South of CSAH 26	2	2/3 ^B	2/3 ^B
CSAH 26 (70th Street)	West of CSAH 63	2	4	4/5 ^B
	East of CSAH 63, West of TH 3	2	5/6 ^B	5
	East of TH 3, West of CSAH 73	2 or 4	4	4/5 ^B
	East of CSAH 73	4	4	4

^B - Number of lanes will depend on number and type of roadway access points, signalized intersections, etc.

N/A - Not Applicable

As shown in the tables, the traffic is distributed differently depending upon access points to arterial highways. In the *DRAFT AUAR*, the assumed interchanges at CSAH 63 with TH 55 and I-494 caused greater traffic volumes on CSAH 63 than in this Supplemental Analysis. Similarly, the traffic volumes are greater from this Supplemental Analysis on TH 3, which is the main access point to I-494 and to TH 110 farther to the north, in this area. The traffic on CSAH 26 remains fairly equal in both studies. The increase in traffic from this study on TH 3 creates a need to widen the roadway to five, six, or possibly eight lanes, depending on the number and type of roadway access points, signalized intersections, etc. In contrast, CSAH 63 in the *DRAFT AUAR* study needed to be widened to accommodate the traffic levels flowing through that region to reach the assumed interchanges. This comparison shows a large variation in traffic projections on the north-south major corridors depending upon the route available to motorists in connecting

to I-494 and TH 110. This comparison also shows the need for improvements to the study corridors regardless of the connections to I-494 and TH 55.

Analyses of the 2025 a.m. and p.m. peak hour projections at the study intersections determined recommendations for lane geometry. The existing geometry at the study corridors is not expected to accommodate the projected volumes. Figure 2 shows the 2025 projected traffic volumes and lane configuration and is detailed below. The intersections and their levels of service can be seen in Figure 3, and are also explained in detail below.

County State Aid Highway 26 and County State Aid Highway 63 Intersection

County State Aid Highway 26 is currently a two-lane, east-west roadway. County State Aid Highway 63 is also a two-lane road, traveling north-south. The intersection is controlled by a four-way stop with a single lane for all movements of traffic. This geometry will be insufficient with the proposed 2025 traffic volumes. Mitigation measures include signaling the intersection and widening to four-lane roadways with designated turn lanes at the intersection. Based on the analysis, the northbound, southbound, and eastbound movements will perform adequately with one left turn lane and one right turn lane. The westbound movement will need dual left turn lanes due to the left turn volume expected and one right turn lane to accommodate the right turn movements. With these improvements it is anticipated that the entire intersection will perform at a LOS C during both the a.m. and p.m. peak hours. Except for the eastbound and westbound left turn movements during the p.m. peak hour, individual movements are expected to be a LOS D or better during the peak hours. The lower LOS for the left turn movements is due to the limits of green time available at a signal, not a capacity deficiency. Because a majority of the green time goes to the through movements, since most volume is expected for those movements, less time given to the left turn movements. It is anticipated that the LOS E should only affect the p.m. peak hour of traffic and other times should perform adequately. Additional turn lanes are probably not cost effective in this case.

County State Aid Highway 26 and Trunk Highway 3 Intersection

County State Aid Highway 26 is a two-lane roadway in this segment. Trunk Highway 3 is also a two-lane road. The intersection is under four-way stop control, and has a single lane for all movements in addition to a designated right turn lane for the northbound and southbound directions. County State Aid Highway 26 will need to be widened to a four-lane road and Trunk Highway 3 will need to be widened to a six-lane facility. By the year 2025 it will be necessary to signalize the intersection to improve the level of service. According to the traffic volumes, dual left turn lanes are anticipated for all movements of traffic. Single right turn lanes will be sufficient to accommodate the right turn volumes. With the proposed improvements, the intersection will perform at a LOS C during the a.m. peak hour and a LOS D in the p.m. peak hour. Some of the individual movements, mostly left turn movements, are expected to serve at a LOS E during the peak hours. This is mostly due to green time limitations rather than a lack of capacity. The lower LOS is anticipated during the p.m. peak hour only and should perform adequately during all other hours. Additional lanes are not cost effective in this case.

County State Aid Highway 26 and County State Aid Highway 73 Intersection

Currently, the CSAH 26 and CSAH 73 intersection is under four-way stop control. CSAH 73 is a two-lane road. County State Aid Highway 26 widens to four-lanes just

before the intersection. The intersection has designated left turn lanes and one through/right turn lane in the eastbound and westbound directions. CSAH 73 should perform adequately as a two-lane road, but needs turn lanes by 2025. It is recommended to signalize this intersection in the future. Each movement will need a right turn lane and a left turn lane. With the proposed improvements, the intersection is expected to perform at a LOS C during the a.m. and p.m. peak hours. Individual movements are also expected to be at LOS D or better during the peak hours.

Trunk Highway 55 and County State Aid Highway 63 Intersection

Currently, TH 55 is a four-lane, divided highway. County State Aid Highway 63 is a two-lane road. The intersection is under traffic signal control. If this intersection is kept as a signalized at-grade intersection, CSAH 63 will need to be widened to a four-lane road with one right turn lane and one left turn lane in the northbound and southbound directions. Trunk Highway 55 will need to be widened to accommodate a six-lane facility with dual left turn lanes and single right turn lanes for both approaches. The need for a six-lane facility was driven by the intersection analysis performed on this intersection. Under the proposed configuration, the intersection should perform at a LOS D during the a.m. peak hour and a LOS C during the p.m. peak hour. Two individual movements are expected to perform at a LOS E, but as stated in previous descriptions, this is sometimes difficult to avoid due to limitations in green time. More left turn lanes are not always the most feasible or cost effective mitigation method. Other individual movements are expected to operate at a LOS D or better during both peak hours.

Currently, MnDOT has no plans to upgrade TH 55 to six lanes. As a four-lane roadway, the intersection with CSAH 63 will experience greater delays and congestion as traffic volumes increase. In general, it is the signal, and the stacking that occurs because of it, that drives the need for six lanes on TH 55. An alternative to providing four-lanes on TH 55 could be to provide a grade separated interchange at this location. Converting to a grade-separated interchange would enhance the performance of TH 55 by eliminating a signal on this expressway/freeway. For comparison purposes, this option was analyzed using the projected volumes in this supplemental study and still assuming no new interchange at CSAH 63 and I-494.

If a grade-separated interchange is constructed at the intersection of TH 55 and CSAH 63, CSAH 63 could be reduced to a two-lane roadway with turn lanes at the interchange intersections. With a standard folded diamond geometry, the overall intersection and individual movements are all expected to operate at a LOS C or better. This suggests that with an interchange, CSAH 63 could reduce to a two- or three-lane facility to the south of CSAH 26. Although the through movements were not analyzed on TH 55 for the grade-separated interchange, the removal of the traffic signal eliminates the need to stop and should improve travel times for TH 55. This mitigation may be a preferred choice to providing a four-lane road on CSAH 63 and a six lane road on TH 55 at this location. A grade-separated interchange would also increase safety at this intersection by eliminating a signal on the mainline (TH 55), which would reduce the number of conflicts. The reduction in conflicts, in turn, would likely reduce the number of crashes.

Although not identified for upgrade to an interchange by MnDOT, this intersection is identified in the County Transportation Plan as a half diamond. The City of Inver Grove

Heights should continue to have discussions with MnDOT and the County for the provision of an interchange at this location.

Trunk Highway 55 and Trunk Highway 3 Interchange

This intersection is currently a grade-separated interchange. Trunk Highway 3 is a two-lane facility with dedicated turn lanes at the TH 55 ramps. By the year 2025, it will be necessary to widen TH 3 to a four-lane facility with turn lanes at the intersections. The intersection for TH 55 eastbound ramp should perform at a LOS A and B during the a.m. and p.m. peak hours, respectively. The intersection for TH 55 westbound ramp should perform at a LOS B for both a.m. and p.m. peak hours. Individual movements are expected to have adequate traffic operations with the TH 3 up-grade.

Trunk Highway 3 and Interstate 494 Intersection

Trunk Highway 3 is a two-lane road south of the intersection with I-494 then widens to a four-lane divided section from this interchange to the north and out of the study area. The I-494 and TH 3 intersection is a half diamond interchange with exit and entrance access to the west. The eastbound exit ramp continues through the intersection to a local road. The TH 3 and I-494 eastbound exit intersection is signalized with designated turn lanes. On the eastbound ramp, dual right turn lanes are needed by 2025 along with one left turn lane and one through-left turn lane. The southbound approach should be widened to three lanes with one left turn lane. Trunk Highway 3 will need to be widened to four lanes for the northbound approach with one right turn lane. One of the through lanes will convert to a left turn lane for the I-494 westbound ramp. With the proposed improvements, the intersection should perform at a LOS B during the a.m. peak hour and a LOS C during the p.m. peak hour. Individual movements are also expected to operate at an acceptable LOS.

The westbound I-494 intersection is un-signalized with a designated right turn lane for the southbound direction. Since there are no southbound left turns and enough gaps to allow northbound left turn movements, no traffic signal is necessary under existing conditions. However, for the future 2025 condition, it will be necessary to have dual left turns for the northbound movement. Three through lanes are necessary for both the northbound and southbound movements. The southbound right turn will need one right-turn lane. A traffic signal will be needed to control the intersection with this expected geometry. A LOS B can be expected during both the a.m. and p.m. peak hours for this intersection with these recommended improvements. The individual movements all perform at adequate levels; the lowest LOS is expected to be a LOS D in the p.m. peak hour northbound left turn movement.

The mitigation presented for this interchange is one option available to accommodate the expected growth in the study area. However, an eight-lane section on a non-freeway roadway requires significant right-of-way and investment. A similar roadway section with comparable traffic and characteristics could not be found in the Twin Cities Metro area. Based upon this projected need, another or different type of access to I-494 should be considered. Furthermore, an upgrade of TH 3 to accommodate six or eight lanes of traffic is not on MnDOT's current work plan. The City will need to continue discussions with MnDOT, the Federal Highway Administration, the County, and its neighbors on the future of TH 3 and access to I-494. As presented in the *DRAFT AUAR*, another option to balance expected traffic volumes is to provide a new interchange at CSAH 63. This

should be a part of the discussions to provide the most cost-effective method to accommodate expected growth in the study area and other regional areas.

Trunk Highway 3 and Trunk Highway 110 Intersection

The intersection of TH 3 and TH 110 is a folded diamond. Both the eastbound and westbound intersections are currently signalized with designated turn lanes. In the future the three through lanes will need to be carried through past TH 110 on TH 3. Dual left turn lanes are necessary for the northbound through movement. The southbound right turn movement will need one lane. One lane each should be provided for the eastbound right and left turns. The TH 3 and TH 110 eastbound and westbound intersections will need the same lane geometry and configuration. For the TH 3 and TH 110 eastbound intersection, a LOS B can be expected for the a.m. and p.m. peak hours. At the TH 3 and TH 110 westbound intersection a LOS B during the a.m. and a LOS C during the p.m. peak hours is expected.

As stated in the previous paragraphs regarding TH 3 and I-494, the City should continue to be an active member in discussing the future of TH 3 and future access, if any, to I-494. The six lane upgrade is one possible method to accommodate the expected traffic from the study area. Providing an additional access to I-494 at CSAH 63 will lower traffic volumes at this interchange and potentially reduce the need for six lanes.

A graphical representation of the proposed geometry for the project area is shown on Figure 3. Although this Supplemental Analysis recommends providing traffic signals at several intersections, a Signal Justification Report (SJR) will need to be completed for each intersection prior to the installation of any signal system.

More detailed LOS results and queue analysis are provided at the end of this Supplemental Analysis. Each intersection is expected to provide acceptable traffic operations with a LOS D or better with the recommended improvements. As stated in previous text, the mitigation presented in this report is only one possible solution to the growing needs of the City of Inver Grove Heights. This study area will need to be monitored as growth continues and improvements made to the roadway network at the appropriate times. The City of Inver Grove Heights will also want to investigate other measures of mitigation as a supplement to roadway improvements. One recommendation is the use of mass-transit options, such as park and ride or park and pool sites.

In comparison with the DRAFT AUAR, the interchange at the intersection of CSAH 63 and I-494 is replaced with six lane and eight lane sections on TH 3. Although this will allow the intersections to operate at an acceptable LOS during the peak hours, it may not be the cost effective mitigation.

Similarly, the upgrade to six lanes on TH 55 with multiple turn lanes may not be the best choice in this situation. According to current MnDOT plans, it is unlikely that TH 55 will be improved to six lanes in the next 20 years. Also, the signal will continue to cause queues and delays on TH 55 regardless of its status as four- or six lanes.

Continued discussions between all affected agencies are recommended in order to determine the appropriate future of TH 3, CSAH 63, and any new interchanges on either TH 55 or I-494.

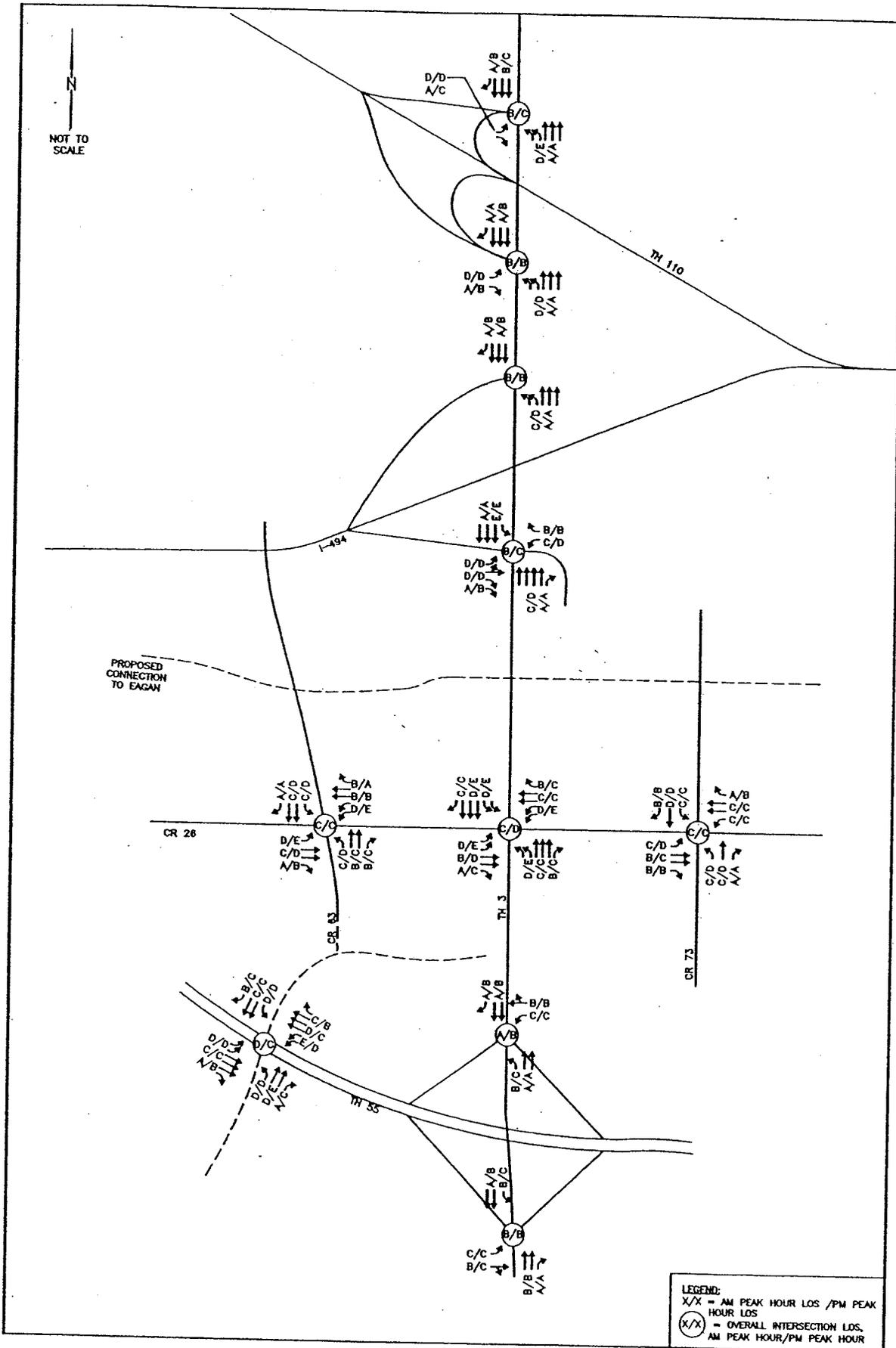


FIGURE 3

2025 PROJECTED PEAK HOUR LEVEL OF SERVICE WITH PROPOSED MITIGATION
 INVER GROVE HEIGHTS AUAR

**2005 Inver Grove Heights AUAR
Existing AM & PM Data**

70th St W & Argenta Tr		NB on Argenta			SB on Argenta			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume	21	110	77	25	62	26	81	103	1	142	229	53	11.4 B
	Delay	6.7	11.0	5.2	5.5	9.8	3.3	7.2	11.8	6.9	12.4	9.4	8.9	
	LOS	A	B	A	A	A	A	A	B	A	B	A	A	
	Lanes		1			1			1			1		
	Queues		67			50			60			104		
PM Peak Hour	Volume	1	70	63	46	92	23	39	313	19	111	128	16	17.9 B
	Delay	11.3	3.8	7.3	11.0	3.5	11.4	13.3	17.7	10.1	10.9	7.4	8.0	
	LOS	B	A	A	B	A	B	B	B	B	B	A	A	
	Lanes		1			1			1			1		
	Queues		55			64			123			62		

70th St W & S. Robert Tr		NB on S. Robert Tr			SB on S. Robert Tr			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume	42	381	229	20	111	71	59	126	15	58	311	36	23.1 C
	Delay	48.9	28.7	35.6	11.1	13.1	10.2	11.5	9.2	9.5	21.9	20.6	18.9	
	LOS	E	D	E	B	B	B	B	A	A	C	C	C	
	Lanes		1	1		1	1		1			1		
	Queues		631	191		86	65		89			254		
PM Peak Hour	Volume	11	183	73	43	332	72	56	351	33	205	30	173	41.4 E
	Delay	62.2	39.3	51.1	57.4	28.5	57.8	62.2	39.3	51.1	57.4	28.5	57.8	
	LOS	F	E	F	F	D	F	F	E	F	F	D	F	
	Lanes		1	1		1	1		1			1		
	Queues		126	85		777	216		467			453		

70th St W & Babcock Tr E		NB on Babcock Tr E			SB on Babcock Tr E			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume	25	49	43	31	29	37	42	366	12	30	324	23	7.9 A
	Delay	6.0	12.2	5.1	6.3	9.1	2.2	8.8	7.0	3.1	9.0	10.6	2.3	
	LOS	A	B	A	A	A	A	A	A	A	A	B	A	
	Lanes		1			1			1	2		1	2	
	Queues		70			51			33	53-47		45	67-46	
PM Peak Hour	Volume	14	36	23	51	73	60	42	398	28	76	352	25	8.2 A
	Delay	5.4	8.8	1.9	7.8	12.2	5.4	8.7	6.5	2.5	10.8	11.8	2.6	
	LOS	A	A	A	A	B	A	A	A	A	B	B	A	
	Lanes		1			1			1	2		1	2	
	Queues		41			75			44	54-48		53	75-53	

S. Robert St & TH 55 WB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume	64	768			193	42				26		13	4.8 A
	Delay	4.4	2.6			10.4	6.7				16.3		8.1	
	LOS	A	A			B	A				C		A	
	Lanes	1	1			1	1				1		1	
	Queues	29	-			-	-				48		33	
PM Peak Hour	Volume	18	326			644	51				41		8	11.4 B
	Delay	4.8	1.1			16.9	11.1				16.4		2.5	
	LOS	A	A			C	B				C		A	
	Lanes	1	1			1	1				1		1	
	Queues	14	-			-	-				56		25	

S. Robert St & TH 55 EB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume		810	49	8	215		24		16				5.4 A
	Delay		6.2	8.1	8.1	1.7		15.4		2.6				
	LOS		A	A	A	A		C		A				
	Lanes		1	1	1	1		1		1				
	Queues		-	-	28	-		40		32				
PM Peak Hour	Volume		286	42	26	674		60		70				4.1 A
	Delay		2.5	4.8	5.2	2.9		19.5		6.5				
	LOS		A	A	A	A		C		A				
	Lanes		1	1	1	1		1		1				
	Queues		-	-	27	-		61		50				

Inver Grove Heights AUAR
2025 AM & PM Volumes with Proposed Geometry Data

70th St W & Argenta Tr		NB on Argenta			SB on Argenta			EB on 70th St W			WB on 70th St W			Intersection
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	140	325	380	145	195	100	100	335	85	375	525	200	21.0 C
	Delay	28.3	19.5	15.8	27.7	30.5	6.2	42.3	30.1	6.3	36.8	14.5	11.6	
	LOS	C	B	B	C	C	A	D	C	A	D	B	B	
	Lanes	1	2	1	1	2	1	1	2	1	2	2	1	
	Queues	131	115-123	153	109	85-70	51	103	130-101	27	135-149	155-157	62	
PM Peak Hour	Volume	155	265	485	215	350	150	165	765	195	575	490	165	34.8 C
	Delay	43.1	28.5	28.9	43.1	47.9	8.5	60.5	44.2	15.8	64.5	15.5	8.7	
	LOS	D	C	C	D	D	A	E	D	B	E	B	A	
	Lanes	1	2	1	1	2	1	1	2	1	2	2	1	
	Queues	162	119-1163	297	188	198-176	63	174	287-275	96	313-321	326-165	31	

70th St W & S. Robert Tr		NB on S. Robert Tr			SB on S. Robert Tr			EB on 70th St W			WB on 70th St W			Intersection
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	155	835	450	130	470	385	355	395	120	255	700	195	28.0 C
	Delay	52.4	23.8	16.2	52.6	35.4	22.0	46.0	18.3	7.4	54.9	30.3	18.8	
	LOS	D	C	B	D	D	C	D	B	A	D	C	B	
	Lanes	2	3	1	2	3	1	2	2	1	2	2	1	
	Queues	95-80	229-223-185	197	66-66	162-149-95	243	179-181	154-151	34	144-98	256-255	110	
PM Peak Hour	Volume	155	700	345	235	860	530	570	920	175	470	595	185	42.9 D
	Delay	57.7	30.9	23.6	58.5	55.8	27.3	61.5	50.5	25.8	65.6	29.3	20.7	
	LOS	E	C	C	E	E	C	E	D	C	E	C	C	
	Lanes	2	3	1	2	3	1	2	2	1	2	2	1	
	Queues	104-106	221-219-194	237	114-115	319-301-246	271	276-355	762-607	313	282-267	265-241	112	

70th St W & Babcock Tr E		NB on Babcock Tr E			SB on Babcock Tr E			EB on 70th St W			WB on 70th St W			Intersection
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	210	65	55	55	50	225	205	640	185	30	590	45	20.2 C
	Delay	29.4	31.5	7.9	27.0	35.5	13.2	28.0	15.3	11.4	21.6	26.3	6.8	
	LOS	C	C	A	C	D	B	C	B	B	C	C	A	
	Lanes	1	1	1	1	1	1	1	2	1	1	2	1	
	Queues	170	71	38	63	74	124	145	146-146	49	54	175-163	29	
PM Peak Hour	Volume	260	60	30	75	100	305	330	780	320	95	680	50	29.0 C
	Delay	44.8	38.2	10.0	33.9	48.4	19.1	52.9	21.7	17.8	31.1	33.4	11.4	
	LOS	D	D	A	C	D	B	D	C	B	C	C	B	
	Lanes	1	1	1	1	1	1	1	2	1	1	2	1	
	Queues	260	80	29	93	123	150	322	310-294	88	97	249-254	44	

TH 55 & Argenta Trail		NB on Argenta Tr			SB on Argenta Tr			EB on TH 55			WB on TH 55			Intersection
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	180	475	190	40	385	205	265	520	35	475	1,530	100	35.9 D
	Delay	46.9	41.0	8.1	35.3	26.1	18.2	52.6	24.3	9.4	64.1	36.8	20.9	
	LOS	D	D	A	D	C	B	D	C	A	E	D	C	
	Lanes	1	2	1	1	2	1	2	3	1	2	3	1	
	Queues	169	220-202	57	60	150-157	126	141-146	120-118-94	24	224-241	10-323-25	48	
PM Peak Hour	Volume	55	405	530	115	535	405	310	1,390	145	275	865	65	32.6 C
	Delay	41.2	60.7	27.8	44.2	26.0	21.8	53.5	31.4	11.2	50.4	25.6	15.5	
	LOS	D	E	C	D	C	C	D	C	B	D	C	B	
	Lanes	1	2	1	1	2	1	2	3	1	2	3	1	
	Queues	62	288-317	306	120	234-234	209	151-148	17-313-25	48	132-152	33-195-16	51	

Inver Grove Heights AUAR
2025 AM & PM Volumes with Proposed Geometry Data

Signalized	S. Robert St & TH 55 WB Ramp	NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized	AM Peak Hour	Volume	125	1,325		595	185				45		100	7.8 A
	Delay	11.3	6.6		7.4	6.4				27.7		18.0		
	LOS	B	A		A	A				C		B		
	Lanes	1	2		2	1				1		1		
	Queues	83	150-150		149-128	34				56		81		
Signalized	PM Peak Hour	Volume	170	990		1370	255				75		120	14.1 B
	Delay	28.9	6.8		16.0	14.0				32.6		12.6		
	LOS	C	A		B	B				C		B		
	Lanes	1	2		2	1				1		1		
	Queues	139	149-144		324-299	145				84		70		

Signalized	S. Robert St & TH 55 EB Ramp	NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized	AM Peak Hour	Volume		1,420	80	105	570		130		70			12.6 B
	Delay		13.6	7.5	18.4	6.2		31.2		10.1				
	LOS		B	A	B	A		C		B				
	Lanes		2	1	1	2		1		1				
	Queues		268-242	43	80	106-98		104		48				
Signalized	PM Peak Hour	Volume		790	75	190	1275		270		150			16.8 B
	Delay		16.8	6.7	20.2	13.6		31.0		20.7				
	LOS		B	A	C	B		C		C				
	Lanes		2	1	1	2		1		1				
	Queues		222-180	41	138	306-325		212		106				

Signalized	S. Robert Tr & 494 EB Ramp	NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 494			WB on TH 494			Intersection Total	
		L	T	R	L	T	R	L	T	R	L	T	R		
Signalized	AM Peak Hour	Volume		1,490	20	40	675		340	20	460		5	110	19.9 B
	Delay		23.1	6.8	62.3	8.5		41.2	47.1	6.7	31.4		16.5		
	LOS		C	A	E	A		D	D	A	C		B		
	Lanes		4	1	1	3		1	1	2	1		1		
	Queues		277-310-259-2	3	67	116-113-108		228	166	75-68	18		70		
Signalized	PM Peak Hour	Volume		1805	30	115	1260		550	75	765		25	160	33.3 C
	Delay		52.8	9.0	79.0	8.6		41.6	52.5	18.5	44.6		19.7		
	LOS		D	A	E	A		D	D	B	D		B		
	Lanes		4	1	1	3		1	1	2	1		1		
	Queues		377-874-652-3	8	159	127-119-108		296	250	215-188	44		109		

Signalized	S. Robert Tr & 494 WB Ramp	NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 494			WB on TH 494			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized	AM Peak Hour	Volume	560	1,495		720	290							10.1 B
	Delay	32.9	3.1		6.9	7.9								
	LOS	C	A		A	A								
	Lanes	2	3		3	1								
	Queues	260-276	-		98-81-101	131								
Signalized	PM Peak Hour	Volume	755	1770		1385	445							11.1 B
	Delay	27.0	4.1		10.5	12.3								
	LOS	C	A		B	B								
	Lanes	2	3		3	1								
	Queues	327-362	-		245-217-173	177								

S. Robert Tr & TH 110 EB		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 110			WB on TH 110			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	285	1,235		790	125		75		195				11.7 B
	Delay	41.4	4.8		9.7	5.0		53.1		8.6				
	LOS	D	A		A	A		D		A				
	Lanes	2	3		3	1		1		1				
	Queues	129-146	112-130-144		94-76-125	56		111		95				
PM Peak Hour	Volume	325	1480		1555	230		100		305			16.7 B	
	Delay	51.4	7.5		16.1	9.5		49.1		19.7				
	LOS	D	A		B	A		D		B				
	Lanes	2	3		3	1		1		1				
	Queues	198-200	204-225-239		278-257-295	175		128		202				

S. Robert Tr & TH 110 WB		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 110			WB on TH 110			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	255	1,055		665	80		125		250			13.7 B	
	Delay	42.9	4.6		11.7	7.9		52.9		8.3				
	LOS	D	A		B	A		D		A				
	Lanes	2	3		3	1		1		1				
	Queues	154-161	78-100-101		130-115-126	42		141		102				
PM Peak Hour	Volume	305	1275		1440	150		190		345			20.4 C	
	Delay	62.6	6.3		21.5	10.4		47.8		20.8				
	LOS	E	A		C	B		D		C				
	Lanes	2	3		3	1		1		1				
	Queues	160-172	73-84-120		297-286-277	58		239		214				

Inver Grove Heights AUAR
2025 AM & PM Volumes with Proposed Geometry Data (Interchange TH55/Argenta)

70th St W & Argenta Tr		NB on Argenta			SB on Argenta			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	140	325	380	145	195	100	100	335	85	375	525	200	21.4 C
	Delay	26.4	25.8	12.3	31.9	33.0	9.0	40.1	34.2	5.6	36.4	13.3	11.7	
	LOS	C	C	B	C	C	A	D	C	A	D	B	B	
	Lanes	1	2	1	1	2	1	1	2	1	2	2	1	
	Queues	111	133-139	183	144	112-50	68	119	126-107	30	173-115	154-153	86	
PM Peak Hour	Volume	155	265	485	215	350	150	165	765	195	575	490	165	36.0 D
	Delay	43.0	33.9	21.2	62.9	49.7	10.0	57.5	48.9	14.1	62.6	17.2	9.4	
	LOS	D	C	C	E	D	A	E	D	B	E	B	A	
	Lanes	1	2	1	1	2	1	1	2	1	2	2	1	
	Queues	178	113-121	246	283	254-160	100	175	312-284	60	282-259	232-201	50	

70th St W & S. Robert Tr		NB on S. Robert Tr			SB on S. Robert Tr			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	155	835	450	130	470	385	355	395	120	255	700	195	28.8 C
	Delay	54.4	25.0	15.7	56.4	32.5	25.0	47.3	19.2	8.4	51.9	32.1	20.4	
	LOS	D	C	B	E	C	C	D	B	A	D	C	C	
	Lanes	2	3	1	2	3	1	2	2	1	2	2	1	
	Queues	83-78	240-230-211	217	77-74	148-127-47	286	158-174	157-140	47	162-110	285-263	116	
PM Peak Hour	Volume	155	700	345	235	860	530	570	920	175	470	595	185	48.6 D
	Delay	56.0	29.9	27.0	65.4	69.0	28.5	71.8	63.0	39.3	68.1	29.2	20.1	
	LOS	E	C	C	E	E	C	E	E	D	E	C	C	
	Lanes	2	3	1	2	3	1	2	2	1	2	2	1	
	Queues	108-103	208-197-191	274	148-296	443-412-392	322	259-385	973-881	377	295-268	234-222	120	

70th St W & Babcock Tr E		NB on Babcock Tr E			SB on Babcock Tr E			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	210	65	55	55	50	225	205	640	185	30	590	45	19.2 B
	Delay	29.8	28.5	11.3	26.4	33.9	13.1	27.6	14.7	9.1	23.1	24.7	7.4	
	LOS	C	C	B	C	C	B	C	B	A	C	C	A	
	Lanes	1	1	1	1	1	1	1	2	1	1	2	1	
	Queues	167	57	44	58	68	104	130	165-176	54	42	188-158	32	
PM Peak Hour	Volume	260	60	30	75	100	305	330	780	320	95	680	50	26.9 C
	Delay	37.4	33.5	10.5	31.5	48.1	14.1	47.3	20.9	18.4	32.9	32.5	9.7	
	LOS	D	C	B	C	D	B	D	C	B	C	C	A	
	Lanes	1	1	1	1	1	1	1	2	1	1	2	1	
	Queues	218	91	32	78	115	121	245	258-270	147	83	253-247	33	

TH 55 EB & Argenta Trail		NB on Argenta Tr			SB on Argenta Tr			EB on TH 55			WB on TH 55			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume		475	190	40	820		265		35				19.1 B
	Delay		15.7	2.1	7.0	22.5		30.3		10.0				
	LOS		B	A	A	C		C		A				
	Lanes		1	1	1	1		1		1				
	Queues		266	28	19	492		275		26				
PM Peak Hour	Volume		405	530	115	695		310		145				15.5 B
	Delay		19.3	3.8	9.6	21.5		23.9		5.1				
	LOS		B	A	A	C		C		A				
	Lanes		1	1	1	1		1		1				
	Queues		226	48	48	375		262		44				

TH 55 WB & Argenta Trail		NB on Argenta Tr			SB on Argenta Tr			EB on TH 55			WB on TH 55			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	180	560			385	205				475		100	23.5 C
	Delay	16.9	20.1			33.0	5.1				34.1		5.1	
	LOS	B	C			C	A				C		A	
	Lanes	1	1			1	1				1		1	
	Queues	119	432			388	53				485		36	
PM Peak Hour	Volume	55	660			535	405				275		65	14.7 B
	Delay	9.6	13.9			19.0	3.1				28.4		6.8	
	LOS	A	B			B	A				C		A	
	Lanes	1	1			1	1				1		1	
	Queues	30	393			227	29				394		52	

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Signalized	S. Robert St & TH 55 WB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
			L	T	R	L	T	R	L	T	R	L	T	R	
	AM Peak Hour	Volume	125	1,325			595	185					45	100	7.1 A
Delay		11.8	6.3			6.1	6.1				26.9	15.1			
LOS		B	A			A	A				C	B			
Lanes		1	2			2	1				1	1			
Queues		85	144-172			117-89	37				75	66			
PM Peak Hour	Volume	170	990			1370	255				75	120	15.3 B		
	Delay	31.7	5.8			18.1	15.5				30.4	12.9			
	LOS	C	A			B	B				C	B			
	Lanes	1	2			2	1				1	1			
	Queues	154	111-118			396-370	182				88	73			

Signalized	S. Robert St & TH 55 EB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
			L	T	R	L	T	R	L	T	R	L	T	R	
	AM Peak Hour	Volume		1,420	80	105	570	130	70						13.7 B
Delay			15.4	7.5	17.6	6.6	30.4	9.6							
LOS			B	A	B	A	C	A							
Lanes			2	1	1	2	1	1							
Queues			333-313	42	81	122-121	139	49							
PM Peak Hour	Volume		790	75	190	1275	270	150					18.6 B		
	Delay		19.2	6.9	20.4	15.9	32.0	19.8							
	LOS		B	A	C	B	C	B							
	Lanes		2	1	1	2	1	1							
	Queues		235-190	47	185	310-352	217	96							

Signalized	S. Robert Tr & 494 EB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 494			WB on TH 494			Intersection Total
			L	T	R	L	T	R	L	T	R	L	T	R	
	AM Peak Hour	Volume		1,490	20	40	675	340	20	460	5	110			19 B
Delay			23.0	5.4	64.2	7.1	38.6	32.4	6.9	45.5	16.0				
LOS			C	A	E	A	D	C	A	D	B				
Lanes			4	1	1	3	1	1	2	1	1				
Queues			260-230-200-1	3	47	83-79-73	216	147	81-69	12	60				
PM Peak Hour	Volume		1805	30	115	1260	550	75	765	25	160			37.6 D	
	Delay		61.2	9.5	73.8	11.3	43.2	47.1	18.8	57.8	28.6				
	LOS		E	A	E	B	D	D	B	E	C				
	Lanes		4	1	1	3	1	1	2	1	1				
	Queues		373-1250-505-2	4	158	151-184-176	357	253	207-197	50	131				

Signalized	S. Robert Tr & 494 WB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 494			WB on TH 494			Intersection Total
			L	T	R	L	T	R	L	T	R	L	T	R	
	AM Peak Hour	Volume	560	1,495			720	290							9.4 A
Delay		29.7	3.1			5.9	8.1								
LOS		C	A			A	A								
Lanes		2	3			3	1								
Queues		240-258	-			77-57-77	111								
PM Peak Hour	Volume	755	1770			1385	445							12.0 B	
	Delay	31.4	4.4			11.1	11.7								
	LOS	C	A			B	B								
	Lanes	2	3			3	1								
	Queues	313-505	-			275-233-205	200								

S. Robert Tr & TH 110 EB		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 110			WB on TH 110			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	285	1,235			790	125	75		195				11.7 B
	Delay	38.7	5.1			10.5	5.5	48.4		4.3				
	LOS	D	A			B	A	D		A				
	Lanes	2	3			3	1	1		1				
	Queues	125-144	129-123-139			119-112-154	48	89		76				
PM Peak Hour	Volume	325	1480			1555	230	100		305			16.5 B	
	Delay	61.1	5.5			14.7	8.8	54.4		23.6				
	LOS	E	A			B	A	D		C				
	Lanes	2	3			3	1	1		1				
	Queues	173-188	182-177-191			200-206-255	67	135		199				

S. Robert Tr & TH 110 WB		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 110			WB on TH 110			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	255	1,055			665	80	125		250			13.7 B	
	Delay	40.4	4.9			11.1	8.1	59.5		7.1				
	LOS	D	A			B	A	E		A				
	Lanes	2	3			3	1	1		1				
	Queues	127-125	105-108-128			117-91-119	48	194		94				
PM Peak Hour	Volume	305	1275			1440	150	190		345			22.7 C	
	Delay	62.0	6.2			26.5	11.0	46.8		21.1				
	LOS	E	A			C	B	D		C				
	Lanes	2	3			3	1	1		1				
	Queues	171-188	73-93-111			383-373-368	59	272		368				

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Existing AM & PM Data

70th St W & Argenta Tr		NB on Argenta			SB on Argenta			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume	21	110	77	25	62	26	81	103	1	142	229	53	11.4 B
	Delay	6.7	11.0	5.2	5.5	9.8	3.3	7.2	11.8	6.9	12.4	9.4	8.9	
	LOS	A	B	A	A	A	A	A	B	A	B	A	A	
	Lanes		1			1			1			1		
	Queues		67			50			60			104		
PM Peak Hour	Volume	1	70	63	46	92	23	39	313	19	111	128	16	17.9 B
	Delay	11.3	3.8	7.3	11.0	3.5	11.4	13.3	17.7	10.1	10.9	7.4	8.0	
	LOS	B	A	A	B	A	B	B	B	B	B	A	A	
	Lanes		1			1			1			1		
	Queues		55			64			123			62		

70th St W & S. Robert Tr		NB on S. Robert Tr			SB on S. Robert Tr			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume	42	381	229	20	111	71	59	126	15	58	311	36	23.1 C
	Delay	48.9	28.7	35.6	11.1	13.1	10.2	11.5	9.2	9.5	21.9	20.6	18.9	
	LOS	E	D	E	B	B	B	B	A	A	C	C	C	
	Lanes		1	1		1	1		1			1		
	Queues		631	191		86	65		89			254		
PM Peak Hour	Volume	11	183	73	43	332	72	56	351	33	205	30	173	41.4 E
	Delay	62.2	39.3	51.1	57.4	28.5	57.8	62.2	39.3	51.1	57.4	28.5	57.8	
	LOS	F	E	F	F	D	F	F	E	F	F	D	F	
	Lanes		1	1		1	1		1			1		
	Queues		126	85		777	216		467			453		

70th St W & Babcock Tr E		NB on Babcock Tr E			SB on Babcock Tr E			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume	25	49	43	31	29	37	42	366	12	30	324	23	7.9 A
	Delay	6.0	12.2	5.1	6.3	9.1	2.2	8.8	7.0	3.1	9.0	10.6	2.3	
	LOS	A	B	A	A	A	A	A	A	A	A	B	A	
	Lanes		1			1			1	2		1	2	
	Queues		70			51			33	53-47		45	67-46	
PM Peak Hour	Volume	14	36	23	51	73	60	42	398	28	76	352	25	8.2 A
	Delay	5.4	8.8	1.9	7.8	12.2	5.4	8.7	6.5	2.5	10.8	11.8	2.6	
	LOS	A	A	A	A	B	A	A	A	A	B	B	A	
	Lanes		1			1			1	2		1	2	
	Queues		41			75			44	54-48		53	75-53	

S. Robert St & TH 55 WB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume	64	768			193	42				26		13	4.8 A
	Delay	4.4	2.6			10.4	6.7				16.3		8.1	
	LOS	A	A			B	A				C		A	
	Lanes	1	1			1	1				1		1	
	Queues	29	-			-	-				48		33	
PM Peak Hour	Volume	18	326			644	51				41		8	11.4 B
	Delay	4.8	1.1			16.9	11.1				16.4		2.5	
	LOS	A	A			C	B				C		A	
	Lanes	1	1			1	1				1		1	
	Queues	14	-			-	-				56		25	

S. Robert St & TH 55 EB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Unsignalized AM Peak Hour	Volume		810	49	8	215		24		16				5.4 A
	Delay		6.2	8.1	8.1	1.7		15.4		2.6				
	LOS		A	A	A	A		C		A				
	Lanes		1	1	1	1		1		1				
	Queues		-	-	28	-		40		32				
PM Peak Hour	Volume		286	42	26	674		60		70				4.1 A
	Delay		2.5	4.8	5.2	2.9		19.5		6.5				
	LOS		A	A	A	A		C		A				
	Lanes		1	1	1	1		1		1				
	Queues		-	-	27	-		61		50				

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70th St W & Argenta Tr		NB on Argenta			SB on Argenta			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	130	625	325	320	390	105	100	265	80	365	460	385	22.1 C
	Delay	47.4	22.4	7.6	43.1	16.1	10.2	44.9	34.8	6.6	41.0	15.5	14.4	
	LOS	D	C	A	D	B	B	D	C	A	D	B	B	
	Lanes	1	3	1	2	3	1	1	2	1	2	2	1	
	Queues	147	182-187-167	-	139-149	98-108-97	39	120	110-99	35	153-147	172-151	112	
PM Peak Hour	Volume	140	595	410	490	745	165	200	660	195	490	380	470	32.9 C
	Delay	55.9	38.3	8.6	54.5	26.3	13.8	58.1	49.3	46.6	59.0	48.4	15.4	
	LOS	E	D	A	D	C	B	E	D	D	E	D	B	
	Lanes	1	3	1	2	3	1	1	2	1	2	2	1	
	Queues	156	215-212-189	-	214-219	220-257-220	59	230	262-269	101	235-245	151-145	162	

70th St W & S. Robert Tr		NB on S. Robert Tr			SB on S. Robert Tr			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	215	545	420	85	265	275	220	435	170	200	785	110	26.0 C
	Delay	37.0	21.6	20.1	30.9	37.6	7.2	43.1	19.8	12.3	54.0	30.3	16.3	
	LOS	D	C	C	C	D	A	D	B	B	D	C	B	
	Lanes	1	2	1	1	2	1	2	2	1	2	2	1	
	Queues	169	212-210	217	83	128-118	-	113-131	190-163	87	138-184	310-300	129	
PM Peak Hour	Volume	230	415	265	135	510	325	355	1015	265	410	660	120	39.8 D
	Delay	51.1	22.7	22.2	36.9	55.0	9.3	59.1	54.2	37.4	53.8	26.3	16.0	
	LOS	D	C	C	D	D	A	E	D	D	D	C	B	
	Lanes	1	2	1	1	2	1	2	2	1	2	2	1	
	Queues	254	176-177	147	141	229-222	19	185-661	878-868	301	194-204	230-244	64	

70th St W & Babcock Tr E		NB on Babcock Tr E			SB on Babcock Tr E			EB on 70th St W			WB on 70th St W			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	200	80	55	55	65	185	190	640	180	30	585	50	20.3 C
	Delay	31.2	23.7	10.6	25.8	32.8	10.7	27.5	17.6	10.2	23.5	23.6	9.2	
	LOS	C	C	B	C	C	B	C	B	B	C	C	A	
	Lanes	1	1	1	1	1	1	1	2	1	1	2	1	
	Queues	201	82	56	67	72	82	150	165-180	33	48	198-168	38	
PM Peak Hour	Volume	225	75	30	80	120	270	275	770	305	95	680	50	25.8 C
	Delay	36.1	39.1	7.4	27.7	42.9	14.0	37.9	22.2	19.4	27.2	30.6	9.5	
	LOS	D	D	A	C	D	B	D	C	B	C	C	A	
	Lanes	1	1	1	1	1	1	1	2	1	1	2	1	
	Queues	216	105	29	87	115	127	204	259-224	72	80	217-210	37	

S. Robert St & TH 55 WB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
		L	T	R	L	T	R	L	T	R	L	T	R	
Signalized AM Peak Hour	Volume	130	1,270	0	0	515	175	0	0	0	65		80	10.3 B
	Delay	13.4	8.8			10.4	10.5				25.8		15.3	
	LOS	B	A			B	B				C		B	
	Lanes	1	2			2	1				1		1	
	Queues	84	210-205			134-121	49				71		66	
PM Peak Hour	Volume	165	880			1,175	255				85		105	14.0 B
	Delay	21.6	6.6			16.6	15.5				33.4		11.5	
	LOS	C	A			B	B				C		B	
	Lanes	1	2			2	1				1		1	
	Queues	150	147-137			280-266	77				100		56	

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Signalized	S. Robert St & TH 55 EB Ramp		NB on S. Robert Tr			SB on S. Robert Tr			EB on TH 55			WB on TH 55			Intersection Total
			L	T	R	L	T	R	L	T	R	L	T	R	
AM Peak Hour	Volume		1,255		85	75		505	145		65				12.4 B
	Delay		13.6		6.8	17.4		7.0	24.8		8.9				
	LOS		B		A	B		A	C		A				
	Lanes		2		1	1		2	1		1				
	Queues		263-238		47	73		116-115	123		56				
PM Peak Hour	Volume		780		80	130		1130	265		150			16.6 B	
	Delay		17.8		7.4	21.2		14.0	25.0		14.8				
	LOS		B		A	C		B	C		B				
	Lanes		2		1	1		2	1		1				
	Queues		272-193		45	107		305-318	191		76				

Signalized	Argenta Tr & TH 55 WB Ramp		NB on Argenta Tr			SB on Argenta Tr			EB on TH 55			WB on TH 55			Intersection Total
			L	T	R	L	T	R	L	T	R	L	T	R	
AM Peak Hour	Volume		65		985			645	185	85		70		6.8 A	
	Delay		12.4		6.3			6.1	4.4	20.1		10.5			
	LOS		B		A			A	A	C		B			
	Lanes		1		2			2	1	1		1			
	Queues		54		140-150			82-92	1,008	76		56			
PM Peak Hour	Volume		70		855			1120	255	80		100		8.9 A	
	Delay		16.1		6.1			9.2	7.2	23.1		16.0			
	LOS		B		A			A	A	C		B			
	Lanes		1		2			2	1	1		1			
	Queues		80		126-129			164-167	71	82		88			

Signalized	Argenta Tr & TH 55 EB Ramp		NB on Argenta Tr			SB on Argenta Tr			EB on TH 55			WB on TH 55			Intersection Total
			L	T	R	L	T	R	L	T	R	L	T	R	
AM Peak Hour	Volume		75		895			645	70	155		30		9.9 A	
	Delay		14.3		8.7			9.3	3.2	18.9		8.8			
	LOS		B		A			A	A	B		A			
	Lanes		1		2			2	1	1		1			
	Queues		66		134-129			120-122	47	114		31			
PM Peak Hour	Volume		140		720			1080	140	205		70		12.9 B	
	Delay		22.5		9.2			13.2	4.8	22.5		12.0			
	LOS		C		A			B	A	C		B			
	Lanes		1		2			2	1	1		1			
	Queues		98		132-129			315-314	55	154		54			