

ROSEVILLE
REQUEST FOR COUNCIL ACTION

Date: 6/29/09
Item No.: 11.a

Department Approval



City Manager Approval



Item Description: Public Hearing for the Proposed Construction of a Noise Wall Along Highway 36 as a part of the Rice Street Interchange Project

BACKGROUND

Ramsey County is developing plans to reconstruct the interchange of Highway 36 and Rice Street. As part of the process and in accordance with state and federal environmental rules, the County has evaluated a number of issues along the corridor. One of the issues analyzed was highway noise. The noise analysis has indicated that highway noise in the North West quadrant of the interchange would exceed state standards. A Noise wall was evaluated at this location as a potential means for mitigating the noise levels. The analysis concluded that a noise wall in this area would meet the cost reasonableness criteria. This proposed noise wall location is shown on the attached drawing embedded in the letter to area residents.

Prior to concluding the noise mitigation process and pursuant to State and Federal rules, Ramsey County needs to verify that the majority of the property owners adjacent to the noise wall support its construction. The consultant that is designing this project will present the findings of the environmental study relating to noise impacts of the project and discuss the MnDot policy at the Council meeting. A MnDot representative will also be available to answer questions. The City of Roseville is required to conduct a public hearing as a part of this process and to pass a resolution of support or rejection.

POLICY OBJECTIVE

The City of Roseville participates in the planning of regional transportation projects to ensure local interests are addressed and there are minimal negative environmental impacts to the community.

FINANCIAL IMPACTS

The proposed noise wall will be funded as a part of the interchange project. The total funding package has not been secured at this time but is anticipated to include State, Federal, Ramsey County and Local funds.

STAFF RECOMMENDATION

Staff recommends the Council consider approval of the construction of a noise wall to mitigate negative impacts of the additional traffic utilizing a reconstructed Rice Street interchange.

29 **REQUESTED COUNCIL ACTION**

30 Approve Resolution in support of the construction of a noise wall along the north side of Highway 36 as
31 a part of the Rice Street interchange project.

Prepared by: Duane Schwartz, Public Works Director

Attachments: A. Noise Abatement Brochure
B. Letter with drawing
C. Resolution

A barrier is feasible if it can be constructed without major engineering or safety issues and provide a substantial noise reduction to the adjacent receivers. Reasonableness deals with whether or not the barrier can be constructed in a cost-effective manner, the percentage of residential-type development, overall noise levels and noise level increases, and the desires of the community.

What is a “substantial noise reduction”?

A noise barrier must provide at least a readily perceptible decrease in noise levels to adjacent receivers to be effective. This is defined as a noise decrease of at least five decibels. As noise level changes of three decibels or less are not generally perceptible, it is not prudent to construct a noise barrier that only gives a one- or two- decibel benefit to adjacent properties.

What types of noise barriers are constructed?

Noise barriers are commonly constructed as walls, earthen berms, or a combination of the two. Walls are most common, and are usually constructed out of dense material, such as wood, concrete or block materials. Earth berms are a natural alternative to walls, but require much more land to construct. Walls can be constructed on top of berms in order to raise the overall height of the barrier.

How do noise barriers work?

Noise barriers reduce noise by blocking the direct travel of sound waves from a source (highway) to adjacent homes or businesses, forcing them over the top or around



the barrier. The barrier must be high enough and long enough to block the view (line of sight) of the highway. This is the phenomenon that allows a noise barrier to provide a perceivable noise reduction. Noise barriers do very little good for homes on a hillside overlooking a road or for buildings which rise above a barrier. Openings or gaps in barriers for driveway connections or street intersections reduce barrier effectiveness.

Noise barriers are most effective for the first one or two rows of homes at distances up to 400 to 500 feet from the barrier. As noise levels decrease with distance, there is a point away from the highway at which noise barriers are no longer effective. They are not designed to eliminate or block all noise.

Will planting vegetation help reduce noise levels?

Vegetation is only effective for reducing noise levels if it is at least 100-200 feet deep, high enough that it cannot be seen over, and dense enough that it cannot be seen through. It is not feasible to plant enough vegetation along a highway to achieve this type of reduction, however, planting trees or shrubs can provide aesthetic benefit and visual screening.

How does pavement type affect noise levels?

Research regarding the influence of pavement surface texture on the tire/pavement sound source has been ongoing throughout the years and continues to this day. The benefits of new advances in paving, such as rubberized asphalt, the use of designed surface texturing etc. are not easily determined. As a result pavement type, in and of itself, cannot be considered as an alternative to conventional noise mitigation at this time.

Does Mn/DOT analyze noise mitigation for new developments?

For a major highway reconstruction project, Mn/DOT will analyze an area if the final plat was approved prior to Mn/DOT's environmental review process. If development occurs after this date, any noise mitigation is the responsibility of the municipality as per MN State Rule 7030.0030.

Highway Traffic Noise: Assessment and Abatement

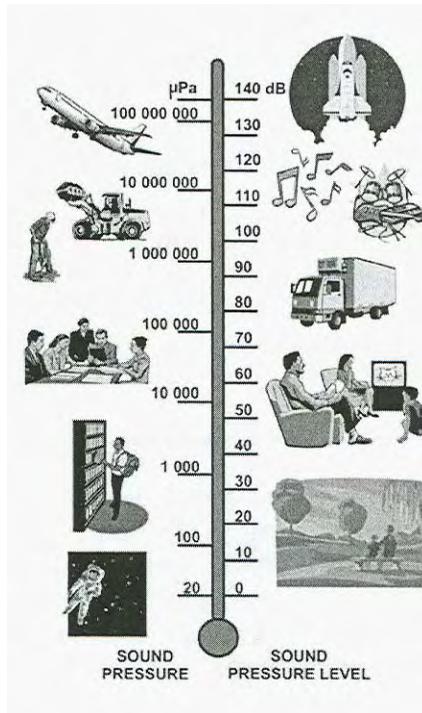


Traffic noise is an important consideration that must be taken into account when the Minnesota Department of Transportation (Mn/DOT) embarks on environmental studies that involve major highway improvements. For these projects, a noise study is required to assess existing noise levels and predict future noise levels (usually 20 years into the future) to determine noise impacts.

All traffic noise studies and analyses prepared for Mn/DOT projects must adhere to procedures and requirements as established by Federal law, U.S. Department of Transportation regulations, MN Pollution Control Agency (MPCA), and Mn/DOT noise analysis guidelines.

This assures that the policies are uniformly and consistently applied and provides equitable treatment for those impacted by highway traffic noise.

If noise impacts are identified during a traffic noise analysis, Mn/DOT is required to examine and consider noise mitigation measures. If these measures are found to be feasible and reasonable in accordance with Mn/DOT defined criteria, they must be included as part of the project.



How are noise level changes perceived?

Studies have shown that changes in noise levels of three decibels or less are not typically detectable by the average human ear. An increase of five decibels is generally readily noticeable by anyone, and a 10-decibel increase is usually felt to be “twice as loud” as before.

How do changes in traffic or roadway geometry affect noise levels?

Due to the nature of the decibel scale, a doubling of traffic will result in a three-decibel increase in noise levels, which in and of itself would not normally be a perceivable noise increase. Traffic would need to increase at least three times to result in a readily perceivable (five decibel) increase in noise.

Using the same reasoning, if a highway is moved half as close to existing homes (i.e. 200 to 100 feet), the noise levels will increase by three decibels. Conversely, if a highway is moved double the distance from existing homes, the noise levels will decrease by three decibels. Noise level increases due to highway projects are usually due to a combination of increased traffic and changes in the roadway alignment.

When is a noise analysis required?

A noise analysis is required for a proposed Mn/DOT project if that project consists of:

- A new highway built on a new location,
- An existing highway is significantly altered by substantially changing the horizontal or vertical characteristics of the road, or,
- The number of through traffic lanes is being increased.

Minor projects, such as normal roadway resurfacing or minor alterations (without adding new lanes), usually do not require a noise analysis.

Does Mn/DOT analyze noise levels on existing highways?

In the absence of a major highway project as described above, Mn/DOT would base any determination for future noise barriers by it's 1997/2002 Highway Noise Abatement Study.

What constitutes a traffic noise impact?

A “noise sensitive receiver” (defined as homes, parks, schools, businesses, etc.) is considered impacted by noise if either the future (generally a 20-year traffic projection) noise levels exceed the State Noise Rules/ FHWA noise abatement criteria, or if there is a substantial increase in future noise levels over existing noise levels from a proposed Mn/DOT project as described above. These are the noise levels that are experienced at commonly used exterior portions of the property.

For residences, schools, and parks, impact is defined when the future noise levels would exceed the State Noise Standards of 65 dBA L₁₀ daytime or 55 dBA L₁₀ nighttime for residential areas and 70 dBA L₁₀ for commercial. For Federal aid type projects, a substantial increase impact occurs when there is a projected 5 decibel increase over existing levels. Impacts such as these require mitigation consideration and analysis, which may result in the construction of noise barriers if they are determined to be feasible and reasonable.

What does Mn/DOT consider “feasible and reasonable”?

A noise barrier must be both feasible and reasonable if it is to be constructed with the highway project. Feasibility and reasonableness are determined by criteria that are quantifiable but flexible, and judgments for special and/or unusual circumstances are made on a case-by-case basis. As a result, noise mitigation is not automatically provided where noise impacts have been identified.

June 17, 2009

Re: Highway 36 and Rice Street interchange
Noise Wall Public Hearing
Monday, June 29 at 7:00 pm

Dear Property Owner:

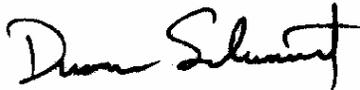
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Prior to concluding the noise mitigation process, Ramsey County needs to verify that the majority of the property owners adjacent to the noise wall support its construction. To learn more about the noise analysis process and be provided the opportunity to state your preference, the City of Roseville is conducting a public hearing as part of its regular City Council Meeting on **Monday, June 29 at 7:00 pm**. Please plan to attend the meeting.

You are encouraged to contact Duane Schwartz, City of Roseville at 651-792-7003 or Jim Tolaas, Ramsey County at 651-266-7116 if you have any questions or can not make the meeting and want your views to be considered.

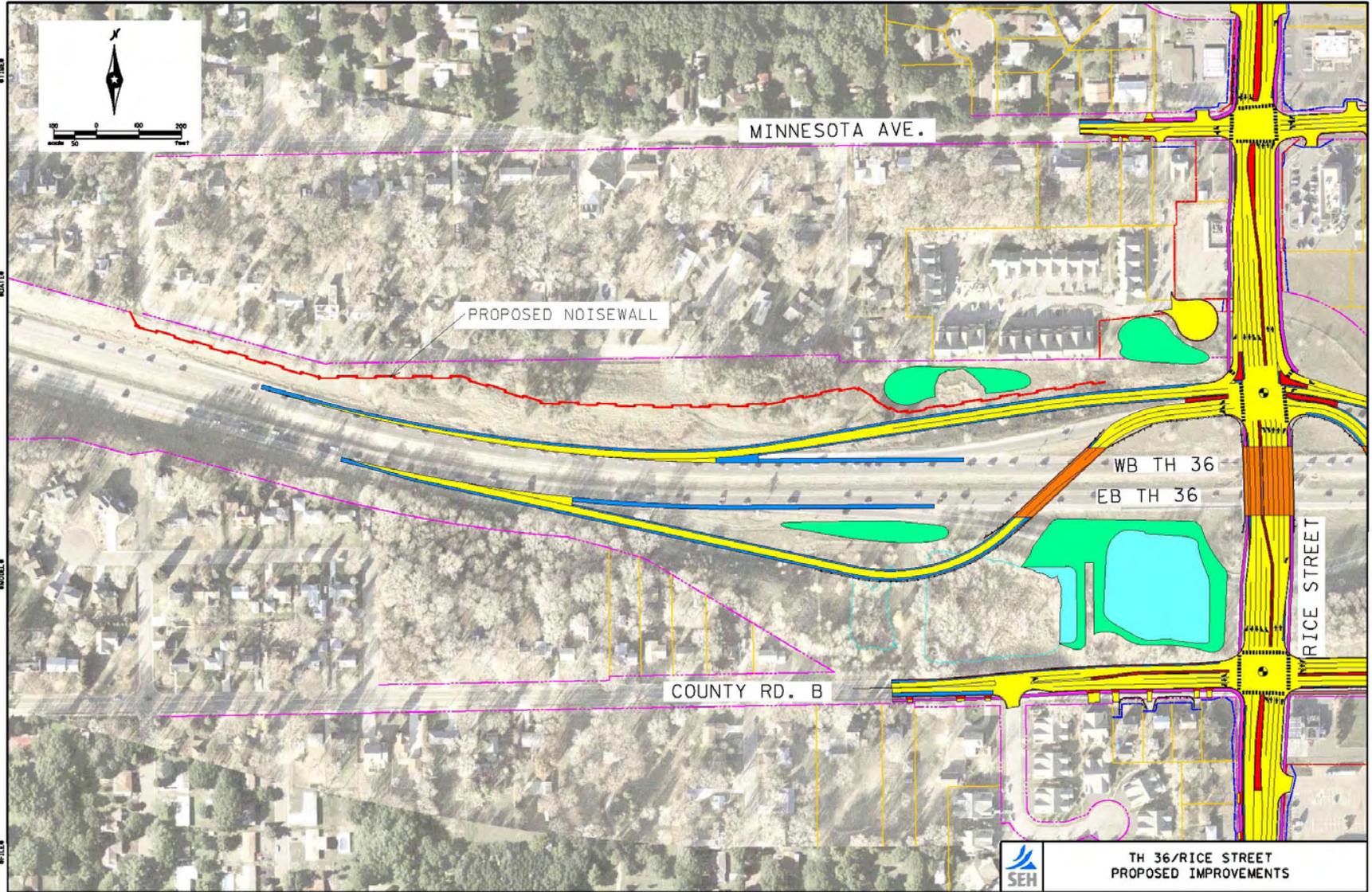
Sincerely,



Duane Schwartz

Public Works Director
City of Roseville

cc: City Council
PWETC



**EXTRACT OF MINUTES OF MEETING
OF CITY COUNCIL
OF CITY OF ROSEVILLE
RAMSEY COUNTY, MINNESOTA**

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Pursuant to due call and notice thereof, a regular meeting of the City Council of the City of Roseville, Minnesota, was held in the City Hall in said City on Monday, June 29, 2009, at 6:00 o'clock p.m.

The following members were present: and the following were absent:

Councilmember introduced the following resolution and moved its adoption:

RESOLUTION

RESOLUTION IN SUPPORT OF A NOISE WALL TO BE CONSTRUCTED ON THE NORTH SIDE OF HIGHWAY 36

WHEREAS, pursuant to requirements established by Federal law, U.S. Department of Transportation regulations, Minnesota Pollution Control Agency, and MnDot noise analysis guidelines: and

WHEREAS, a noise analyses related to the construction of a new interchange at Rice St. and Highway 36 identifies a benefit to properties on the north side of Highway 36 from the construction of a noise wall: and

WHEREAS, the City Council has held a hearing to receive comment from benefitting properties

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ROSEVILLE, MINNESOTA, that the City Council hereby supports the construction of a noise wall on the north side of Highway 36 as a part of the construction of a new interchange at the intersection with Rice Street as proposed

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember and upon vote being taken thereon, the following voted in favor thereof: and and the following voted against the same: none

Whereupon said resolution was declared duly passed and adopted.

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3 STATE OF MINNESOTA)

4) SS

5 COUNTY OF RAMSEY)

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7 I, the undersigned, being the duly qualified City Manager of the City of Roseville, Minnesota, do hereby
8 certify that I have carefully compared the attached and foregoing extract of minutes of a regular meeting of the
9 City Council of said City held on the 29th day of June, 2009, with the original thereof on file in my office, and
10 the same is a full, true and complete transcript.

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12 Adopted by the Council this 29th day of June, 2009.

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17 (SEAL)

William J. Malinen, City Manager