

Transportation Advisory Board
Of the Metropolitan Council of the Twin Cities

ACTION TRANSMITTAL

No. 2011-46

DATE: May 12, 2011
TO: Transportation Advisory Board
FROM: Technical Advisory Committee
SUBJECT: Scope Change and TIP Amendment Request for City of Maplewood
SP#138-010-018: TH 36 and English Street Interchange Construction.

MOTION: That the TAB:

1. approve a scope change to SP#138-010-018: TH 36 and English Street Interchange to a full diamond interchange at English Street rather than the original split diamond interchange with TH 61 and English; and
2. adopt an amendment to the 2011-2014 TIP to reflect the new scope and cost; and
3. change the program year for SP#138-010-012, Keller Lake Water Quality Improvement Project, from 2012 to 2014 so that the two projects can be coordinated.

BACKGROUND AND PURPOSE OF ACTION: The TH 36 and English Street interchange project received Surface Transportation Program (STP) funds in the Non-Freeway Principal Arterial category in 2009 for access management and a split diamond interchange along TH 36 at English Street and TH 61 in Maplewood. As the project development process moved forward, the original proposal was deemed unacceptable to MN/DOT because of delays it would create along TH 61. MN/DOT Traffic Engineering instead proposed an auxiliary lane between TH 61 and English Street creating a full interchange at English Street. This scope change makes the spacing of the two interchanges less than one mile, which is against regional policy on interchange spacing.

The F&P Committee had a lengthy discussion about whether this project sufficiently mitigated impacts associated with closely-spaced interchanges and determined that it did. The scope change increases the total cost of the project from \$9,100,000 to \$10,100,000. The city of Maplewood will cover the cost increase. Construction of this project would impact the timing of a water quality project in the vicinity that was awarded Transportation Enhancements funds. The Keller Lake Water Quality Improvement Project can now be tied to the TH 36/English interchange project in 2014 because of this action.

ROUTING

TO	ACTION REQUESTED	DATE COMPLETED
TAC Funding & Programming Committee	Review & Recommend	April 21, 2011
Technical Advisory Committee	Review & Recommend	May 4, 2011
TAB Programming Committee	Review & Recommend	
Transportation Advisory Board	Review, Approve & Adopt	
Metropolitan Council	Concurrence	

MEMORANDUM

Date: April 14 2011
To: TAC F&P Committee
From: Carl Ohrn
Subject: Scope Change for TH 36/English

The City of Maplewood has submitted a scope change for a non-freeway PA project that calls for a split diamond interchange on TH 36 at TH 61 and English. This design avoided a conflict with regional policy which limits construction of interchanges closer than one mile from one another on PAs. The one mile spacing criteria has been in the Plan since 1988.

Before the committee takes up the requested scope change, it needs to determine if the revised project would have qualified for the solicitation if submitted as a full diamond interchange at English one-half mile east of the TH 61 interchange. Obviously, if the revised project would not have qualified for the regional solicitation then the change in scope is not relevant.

No project is supposed to qualify for the solicitation if it is inconsistent with or is in conflict with the Regional Transportation Policy Plan. In order to treat all applicants fairly, it would be inappropriate for the TAC to approve a scope change which produces a project that is inconsistent with TPP policy and would not have qualified for the regional solicitation. In 2009 when this project was submitted, the 2009 TPP was current. Recorded below are excerpts from the 2009 TPP.

“Strategy 11e. Access Management: State, county and local governments will manage access to the Metropolitan Highway System to optimize the performance of existing facilities. New or reconstructed trunk highway interchanges to expand capacity or meet safety concerns will be considered only if they are consistent with this policy plan (Appendix E) and MnDOT’s criteria and cost-sharing policies.” P. 64

Appendix E, Qualifying Criteria

“6. Generally, interchanges on the metropolitan highway system should be spaced at a minimum of one mile (center to center). If it is determined appropriate to locate an interchange at less than one mile or modify an existing interchange, the safe operation of the mail roadway must be maintained.

Discussion: Experience has shown that interchanges spaced less than one mile apart have inadequate weaving distance and require special design features such as auxiliary lanes to maintain safety.” P. E-2

Conclusion:

The committee needs to determine if it would have supported a staff recommendation to disqualify the TH 36 and English application given it was inconsistent with 2009 TPP policies. If the committee concludes it would have supported that recommendation, the City and MnDOT need to determine if the original project can move ahead as submitted in the application given that project is still eligible for funding and there is sufficient time for it to meet its program year.

Department of Public Works
City of Maplewood

MEMORANDUM

TO: Technical Advisory Committee – Funding and Program Committee

FROM: R. Charles Ahl, Director of Public Works/City Engineer

DATE: April 8, 2011

SUBJECT: Scope Change Request – TH 36 – English Improvement
City Project 09-08 – Project Background

On April 21, 2011, the City of Maplewood will be requesting approval of a Scope Change for a project that we have taken lead responsibility within our City. The project has been a number of years in discussion and has reached a point of decision as to whether it should proceed. The approval of a scope change is critical to Maplewood's continued involvement in the project. With this memorandum, I would like to provide you with a project history and explanation of our position on the scope change.

Attached are maps showing the original project proposal, along with the proposed improvements. We have also included an analysis by our consultant engineer from SEH on the relevant items from the original scoring decisions in 2009. I believe that this information is self explanatory and indicates that our proposal is consistent within the scoring system with the original proposal.

Our issue, however, is whether this project should have originally qualified for funding in the original submittal. I can assure you that we did not submit the original project with a design that met regional guidelines for spacing with the intent of later providing a proposed scope of work that did not meet those guidelines. To the contrary, we have spent over 5 years in project development planning and nearly \$500,000 in mostly Maplewood, but also Ramsey County and MnDOT funding, exploring design options that we believed was a solution that worked for the system within those guidelines. The specific guideline that is in question is the spacing of access points on principal arterials are to have a minimum of 1 mile of separation. We acknowledge that our original proposal met that requirement, but the current proposal and the subject of our scope change does not meet the guideline. I fully understand that Met Council staff have suggested that this project may not have qualified for funding because it did not meet this spacing guideline.

TRUNK HIGHWAY 36 ACCESS MANAGEMENT PROJECT
PAGE TWO

In a brief review of history on this proposal, we first began planning for this needed improvement to remove the last remaining signalized intersection within an 8-mile segment of this principal arterial in April of 2005. The segment of TH 36 between White Bear Avenue and Trunk Highway 61 is an expressway design with a signal at English Street, while the remainder of TH 36 from Century Avenue in Washington County to Trunk Highway 280 in western Ramsey County is a freeway design. An upgrade of this last segment is a high priority to the overall eastern metro freeway system. Maplewood recognized this need and agreed to work with MnDOT Regional Management staff in taking the lead on determining solutions. Six years later, and one-half million dollars of funds spent of various studies, we need a scope change to implement the “Best Solution for the Area Roadway”.

I quote that term, because we have been in a four-month delay in project development design because we cannot implement a final design that MnDOT Highway staff have found is the best overall design. The reason: we do not meet guidelines for spacing of interchanges.

MnDOT staff has indicated that the ramps for exiting off eastbound TH 36 at TH 61 will create lengthy delays on TH 61, even with triple left movements. Reducing signal time creates a potential back-up onto the TH 36 mainline. In reviewing options to mitigate this issue, it was determined that adding an exit ramp at English would help reduce that impact; but created issues with northbound TH 61 moving to eastbound TH 36 through a very circuitous route. To mitigate this measure, a design exception was considered on TH 36 with auxillary lanes to allow for a reasonable merge area. Traffic professionals report that the volume of merging traffic is in the 400 – 600 car range, while concern for merges is not an issue until volumes approach 2,000. This is due to the lower volumes associated with English Street egress. A similar analysis determined that an auxillary lane on TH 36 between English Street and TH 61 would be the preferred design rather than the remote frontage road access change. The overall plan removes improvements from the TH 61 intersection from the proposed project and creates a concern of spacing of interchanges. This decision was made not by Maplewood or our consultant, but by the MnDOT Traffic Engineering Office. Maplewood staff supports this change and also acknowledges that it enhances our redevelopment plan being developed and allows us to generate funds to cover the additional project expenses.

Our proposed request for the Scope Change is based on approval of the change consistent with the following issues:

1. The proposed change is the “Best Solution for the Area Roadway”. Bureaucratic guidelines should never trump the design professionals decisions.

2. About three quarters of a mile south of this intersection English Street and TH 61 are separated by one mile. Due to Lake Keller, TH 61 must curve to the east and reduces the separation between the roadways. These natural features do not allow for one-mile spacing.
3. Designs within the urban boundary do not readily and easily conform to the guidelines. Exceptions are considered though out of the freeway/arterial system and should rely upon the design professionals to mitigate the impacts. Denial of exceptions will create numerous fundamental problems for urban design for years to come.
4. The City of Maplewood has followed a 5-year process and expended significant funds to explore the best solution. This solution works for the arterial, the business community and the overall area roadway system. Guidelines are necessary but should not be the controlling factors.
5. The analysis shows that the project impacts are similar to those as part of the original submittal.

The City of Maplewood respectfully requests approval of this scope change.

RCA



TECHNICAL MEMORANDUM

TO: Michael Thompson
Chuck Ahl

FROM: Mark Benson
Bob Rogers

DATE: April 4, 2011

RE: Trunk Highway 36 Access Management Project - Updated Responses to the Prioritizing Criteria for the 2009 Surface Transportation Program Funding Application.
SEH No. 113910

This memorandum provides an update to selected prioritizing criteria from the 2009 Surface Transportation Program (STP) funding application for the Trunk Highway (TH) 36 Access Management Project. The project was submitted and awarded funding under the Non-Freeway Principal Arterial category. Updated project information has been requested by the Metropolitan Council (Council) as a result of proposed project modifications that have occurred through ongoing coordination between the City of Maplewood, the Minnesota Department of Transportation (Mn/DOT), the Federal Highway Administration (FHWA), and the Council.

Background

The original STP application submitted in June 2009, described the proposed project improvements as a split diamond interchange along TH 36 between English Street on the east and TH 61 on the west. English Street would be grade separated with a bridge over TH 36. Other improvements were to include collector-distributor roads on both the north and south sides of TH 36, modifications to the TH 36/TH 61 interchange, and installation of four traffic signals (two along TH 61 and two at the English Street ramp terminal intersections). Minor improvements to the local roadway system would also be required including the elimination of right-in/right-out access points along TH 36 at Atlantic Street and Hazelwood Street. The estimated construction cost of the improvements was \$9 million.

As mentioned above, the project development process has included ongoing coordination between the City, Mn/DOT, FHWA, and the Council. A result of this coordination has been modifications to the preferred interchange configuration and changes to other transportation system improvements associated with the project. The new interchange configuration includes a full diamond at TH 36/English Street and no changes along TH 61. Other local roadway system improvements will still be required including the elimination of right-in/right-out access points along TH 36 and minor improvements to enhance local property access and circulation. Attachment A includes a conceptual layout of the preferred alternative that will be assessed as part of this STP Funding Application Update. The construction cost of the preferred alternative is estimated at \$10 million.

The following sections of the STP application include updated information for the TH 36 Access Management Project: Prioritizing Criteria B.1, C.1, C.2, and C.3 under the “Non-Freeway Principal Arterial” category. All other “Qualifying” and “Prioritizing” criteria remain unchanged.

PRIORITIZING CRITERIA B – Deficiencies and Solutions on Principal Arterial

B.1 – Crash Reduction

RESPONSE: The total number of crashes along TH 36 from Atlantic Street to Hazelwood Street in the three-year period 2005-2007 was 72 crashes, including no fatal and 19 injury crashes. Of the 72 crashes, 15 crashes occurred at the TH 36/Hazelwood Street intersection, 55 crashes occurred at the TH 36/English Street intersection, and 2 crashes occurred at the TH 36/Atlantic Street intersection. A list of the crash data, as well as crash diagrams for the TH 36/English Street intersection, the TH 36/Hazelwood Street intersection, and TH 36/Atlantic Street intersection, were included in Attachment G of the original application.

The FHWA Desktop Reference for Crash Reduction Factors does not have countermeasures with crash reduction factors that apply to the proposed improvements. Therefore, other means of determining crash reduction benefits for the project were pursued.

The project proposes closing the Hazelwood Street access and the Atlantic Street access to TH 36. There were 15 crashes at the TH 36/Hazelwood Street intersection and 2 crashes at the TH 36/Atlantic Street intersection for the 2005-2007 time period. The elimination of these access points is assumed to result in a crash reduction of 17 crashes.

From Research Report KTC-96-13, Development of Accident Reduction Factors, Kentucky Transportation Center, p.18, the “construct interchange” countermeasure shows a crash reduction factor of 55 percent. Applying this crash reduction factor to the TH 36/English Street intersection results in a crash reduction of 30 crashes ($55 \times 0.55 = 30$).

Total Crash Reduction for Project

Elimination of TH 36/Hazelwood Ave. access	= 15 crashes
Elimination of TH 36/Atlantic St. access	= 2 crashes
New interchange at TH 36/English St.	= <u>30 crashes</u>
Total crashes reduced	= 47 crashes

The total crash reduction benefit for the project for the three-year period 2005-2007 is estimated to be 47 crashes.

The 2009 STP application identified an additional 10 crashes (57 total crashes) that could be reduced as a result of modifications that were proposed to the TH 36/TH 61 interchange.

PRIORITIZING CRITERIA C – Cost Effectiveness

C.1 – Crash Reduction

RESPONSE: The cost per crash reduced is based on the project construction cost of \$10 million and the estimated 47 crashes reduced by the project, as identified in Item B.1.

The cost per crash reduced = $\$10,000,000 / 47 \text{ crashes} = \$212,766$. The 2009 STP application indicated a cost per crash reduction = $\$157,895$.

C.2 – Air Quality

RESPONSE: The cost per kg/day of emissions reduced was calculated as follows:

Net emissions reduction due to project = 502.9 kg/day

Total project cost = \$10 million

Cost per kg/day emissions reduced = $10,000,000/502.9$ = approximately \$19,884/kg.

The 2009 STP application indicated a cost per kg/day emission reduced = \$17,898.

C.3 – Congestion Reduction

RESPONSE: The hourly throughput in the AM peak hour, in the peak direction of travel (westbound) on TH 36 was calculated for the current and the proposed conditions. Details of the analysis are provided under Item B.3 of the original application.

Existing Westbound TH 36

Vehicle Capacity = 1,900

AM peak hour vehicle occupancy = 1.15

AM peak hour bus ridership = 0

Existing hourly person throughput = $1900 \times 1.15 = 2,185$

Proposed Westbound TH 36 (grade separation @ English St.)

Vehicle Capacity = 3,900

AM peak hour vehicle occupancy = 1.15

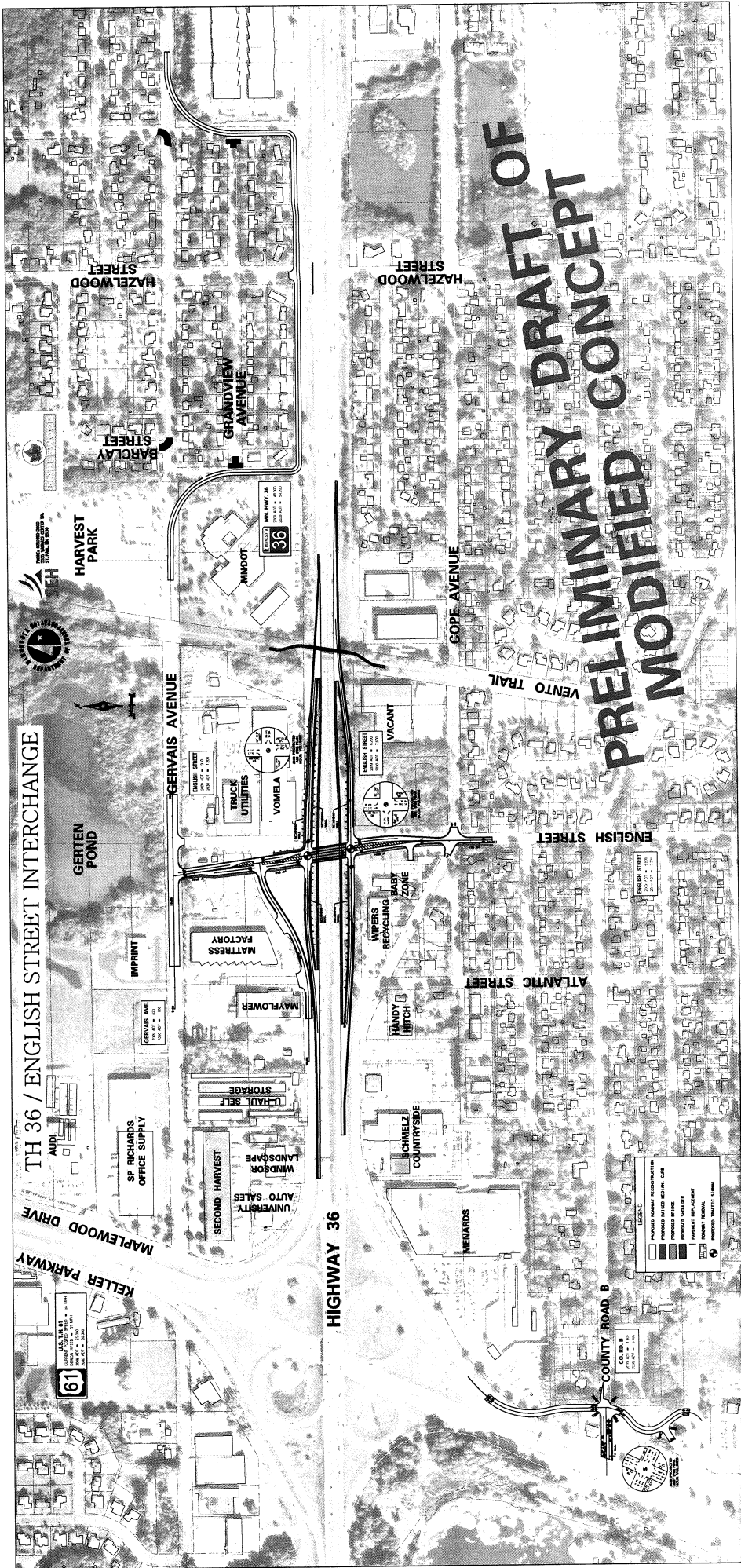
AM peak hour bus ridership = 0

Existing hourly person throughput = $3,900 \times 1.15 = 4,485$

Hourly Throughput Increase = $4,485 - 2,185 = 2,300$ persons/hour

Cost Per Increase In Hourly Person Throughput = $\$10,000,000/2,300 = \$4,348$

The 2009 STP application indicated a cost per increase in hourly person throughput = \$3,913.





April 12, 2011

Karl Keel, Chair
 TAC Funding and Programming Committee
 Metropolitan Council
 390 N. Robert St.
 St. Paul, Minnesota 55101

RE: Amendment to the Minnesota 2011-2014 Transportation Improvement Program (TIP)
 State Project Number: 138-010-018
 Federal Project Number:

Dear Mr. Keel:

Please amend the Minnesota 2011-2014 Transportation Improvement Program (TIP) to address changes in the above referenced project which is currently in SFY 2014 of the TIP. The project is being submitted with the following information:

PROJECT IDENTIFICATION:

SEQ #	STATE FISCAL YEAR	A T P	D I S T	ROUTE SYSTEM	PROJECT NUMBER (S.P. #) (Fed # if available)	AGENCY	DESCRIPTION include location, description of all work, & city (if applicable)	MILES
1882	2014	M	M	TH 36	138-010-018	MAPLEWOOD	FROM HAZELWOOD AVE TO TH 61 IN MAPLEWOOD – CONSTRUCT INTERCHANGE AT ENGLISH ST.	1.2

PROG	TYPE OF WORK	PROP FUNDS	TOTAL \$	FHWA \$	AC \$	FTA \$	TH \$	OTHER \$
RC	GRADE, SURFACE, & BRIDGE	STP-UG	10,100,000	7,280,000	0	0	0	2,820,000 (CITY FUNDS)

PROJECT BACKGROUND:

1. Briefly describe why amendment is needed (e.g. project in previous TIP but not completed; illustrative project and funds now available; discretionary funds received; inadvertently not included in TIP).

STIP SEQ1882 was originally proposed to be a split diamond interchange along TH 36 between English Street on the east and TH 61 on the west. Other improvements were to include frontage roads on both the north and south sides of TH 36, modifications to the TH 36/TH 61 interchange, and installation of four traffic signals (two along TH 61 and two at the English Street ramp terminal intersections). Minor improvements to the local roadway system would also be required including the elimination of right-in/right-out access points along TH 36 at Atlantic Street and Hazelwood Street. The estimated construction cost of the improvements was approximately \$9 million.

The project development process has included ongoing coordination between the City, Met Council, FHWA, and Mn/DOT. A result of this coordination has been modifications to the interchange configuration and changes to other transportation system improvements associated with the project. The new interchange configuration includes a full diamond at TH 36/English Street and no changes along TH 61. Other local roadway system improvements will still be required including the elimination of right-in/right-out access points along TH 36 and minor improvements to enhance local property access and circulation. The existing pedestrian bridge (associated with the Bruce Vento trail) over TH 36 will also be replaced. The updated construction cost of the improvements is estimated at \$10.1 million.

2. How is Fiscal Constraint Maintained as required by 23 CFR 450.216 (check all that apply)?

- New Money – (indicate type here) _____
(Discretionary, Special Allocations or Other New Funding Sources)
- Anticipated Advance Construction _____
- ATP or MPO or Mn/DOT Adjustment _____
of other projects
- Earmark or HPP federal funds outside ATP _____
target
- Other* _____ X

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*The federal funding on this project will remain the same as identified in SFY 2014 (Seq. # 1882) of the current 2011-2014 STIP. Only the project scope has changed, therefore fiscal constraint is maintained.

CONSISTENCY WITH MPO LONG RANGE PLAN:

This amendment is consistent with the Metropolitan Council Transportation Policy Plan, adopted on January 14, 2009, with FHWA/FTA conformity determination established on September 16, 2009. The amendment is also consistent with the 2030 Policy Plan update adopted by the Metropolitan Council on November 10, 2010 and transmitted to MnDOT on November 22, 2010 for transmittal to USDOT for a conformity determination.

AIR QUALITY CONFORMITY:

- Subject to conformity determination*..... X
- Exempt from regional level analysis..... _____
- Exempt from project level analysis..... _____
- Exempt by virtue of interagency consultation*..... _____
- N/A (not in a nonattainment or maintenance area) _____

*The project has been identified as a "regionally significant project" for the air quality analysis undertaken for the 2011-2014 STIP. The project was placed under Action Scenario 2015.

We are requesting approval of this STIP amendment at this time. If you have any questions, please call 651-249-2402

Sincerely,

R. Chuck Ahl
City of Maplewood

Enclosures: Revised Interchange Layout

Cc:
Colleen Van Wagner
Michael Thompson

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Ramsey-Washington Metro



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RECEIVED

MAR 04 2011

Maplewood
Public Works

March 1, 2011

Michael Thompson
Maplewood City Engineer
1830 E. County Rd. B
Maplewood, MN 55109

Re: Merging District TAB Funds with City English Street Project Funds.

Dear Michael:

There have recently been discussions of merging the Watershed District TAB grant funds (\$310,000) with the Maplewood Highway 36/English Street project funds. Since the timeline for use of the District funds does not mesh with the City's construction timetable for the Highway 36 project, we would support transfer of the District project funds to the City project. This will allow us to coordinate our projects to provide the best approach for stormwater management within the project area and the adjacent subwatershed.

The District looks forward to working with the City and its partners on this project.

Sincerely,

A handwritten signature in cursive script that reads "Clifton U. Aichinger".

Clifton U. Aichinger,
Administrator