[PROJECT PRIORITAZION CONCEPT REPORT]



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1.0 | Project Summary Information

- 1.1 Project Name (35 letters max) SR-146 Reconstruction and Widening
- 1.2 Project Type Road Reconstruction
- **1.3 Limits** (descriptions should be identifiable. i.e: intersections, place names, landmarks, 35 characters max) SR-146 from HWY 89 to SR-92.
- **1.4 Project Description** (summary of project) This project includes the reconstruction and widening of SR-146 from HWY 89 (State Street) in Pleasant Grove to SR-92 at American Fork Canyon. The current facilities along this corridor are a combination of 2-lane and 3-lane sections that are in poor condition. The proposed improvements to the section of the corridor from State Street to 2600 North in Pleasant Grove will consist of reconstructing the existing asphalt section and widening the road to accommodate a 3-lane facility with 8' asphalt/gravel shoulders, except in areas where curb and gutter exist and the corridor will be reconstructed to the lip of gutter. The proposed improvements to the section of the corridor from 2600 North in Pleasant Grove to SR-92 at American Fork Canyon will consist of reconstructing the existing asphalt section and widening the road to accommodate a minimum of a 2-lane facility with 8' asphalt/gravel shoulders. This project will also include some safety upgrades to the 2600 North and 4000 North intersections to help lessen the exisiting poor access conditions due to sight distances and alignment at these locations. The proposed improvements to the section of the corridor from Cedar Hills Drive to Paige Lane in Cedar Hills will consist of constructing a storm drain collection that will drain to a retention basin between the Murdock Canal and SR-146 at 9220 North.
- 1.5 Sponsor (jurisdiction, agency name) Pleasant Grove, Cedar Hils, UDOT, Utah County
- 1.6 Contact Information

Project Manager Marty Beaumont Office Phone 801-226-0393 Cell Phone 801-319-5723 Fax 801-226-0394 Email mbeaumont@jub.com



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1.7 Cost Estimate

Total Project Cost \$9,514,000 **PE Cost** \$1,205,000 **ROW Cost** \$200,000 **Construction Cost** \$8,097,000 Funds already available to project Yes **Soft Match proposed for project** \$3,329,900

1.8 Regional Significance

Is project in MPO transportation plan? Yes Is project on a corridor on the Utah State Functional Class Map? Yes

1.9 Air Quality Benefit (summarize CM/AQ Report, NA for non-CM/AQ eligible projects) NA

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2.0 | Project Scope

Enter NA for answers to questions not applicable to your project.

2.1 Describe purpose and need of project.

SR 146 is a highly traveled corridor from Pleasant Grove to American Fork. A number of sections along this road are currently only 2-lanes with little to no shoulder. Vehicles traveling at high speeds with short sight distances make this area dangerous when turning on or off of the street. The current LOS of this area is rated as E or F due to high traffic volumes. The Pleasant Grove City Transportation Master Plan categorizes this facility as a future 5-lane arterial, which will improve the LOS to C or better. In order to accommodate traffic between now and the full 5lane arterial construction, this project will widen the road and improve the asphalt surface.

2.2 Describe existing service/conditions

NA

2.3 Highway Project Information

SR# or FA#

SR-146

Beginning Mile Post

HWY 89

End Mile Post

SR-92

Length of project

Approximately 5.25 miles

Existing number of Travel Lanes

Width of facility.

SR 146 from State Street to 2600 North - minimum of 54' SR 146 from 600 North to SR-92 - minimum of 40'

Facility surface type.

Asphalt

2.4 Transit / Pedestrian Facility Project Information

Route#

NA

Length of project

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NA

What is the expected use of the facility or program?

NA

What services are provided in the operating of this project?

NA

2.5 Describe any equipment to be purchased (buses, ITS, etc.).

NA

2.6 Describe how project is consistent with local plans.

Pleasant Grove City's Transportion Master Plan identifies SR 146 as a 5-lane arterial street. Reconstruction and widening of the street to 3-lanes to 2600 North in Pleasant Grove and adding adequate shoulders is an intermediate way of helping reduce some of the congestion and increase safety until the corridor can be constructed to it's full width.

2.7 Describe how project is consistent with Utah County ITS plan.

This project is consistant with ITS objectives by reducing congestion through adding a center lane that allows left turning traffic to be removed from the flow of traffic in the through lane. Upgrades to existing ITS infrastucture is not a part of this project.

2.8 If phased or segmented, describe how the phase has logical termini and what will future phases consist of.

NA

2.9 Is project being coordinated with or constructed with a larger project?

NA

2.10 Describe how project will alleviate congestion on this or other facilities.

This project will widen the road to add a minimum of a center turn lane through 2600 North in Pleasant Grove which will allow for left hand turning movements without stopping traffic in the primary travel lane. Only having 2 lanes currently creates significant congestion and delays during peak hour traffic times.

2.11 Describe any traffic improvements. (i.e lanes, signal coordination, ITS, turn lanes, bus pullouts, etc.)

The project will provide the following traffic improvements on SR 146: add a center turn lane for the section from State Street to 2600 North in Pleasant Grove; add 4' asphalt and 4' gravel shoulders for the section between 2600 North in Pleasant Grove and SR-92; full reconstruction and lowering of SR 146 for approximately 700' to the north of the 4000 North intersection in order to provide adequate sight distances for that intersection; and add a center turn lane for northbound traffic and a righthand turn lane for southbound traffic at the intersection of 2600 North.

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2.12 Describe any safety improvements for vehicular and pedestrian traffic. (i.e. raised median, channelization of turn movements, barriers, parkway strips, etc.)

Adding the additional lane through 2600 North will allow for a center turn lane along the corridor which will remove the left turning vehicles from the primary travel lane. This will help reduce the number of accidents cause by vehicles being stopped in the primary travel lane. This will also allow for a more consistent flow of traffic along the corridor. A section of SR 146 just to the north of the intersection of 4000 North will also be lowered by up to 5' in order to increase the sight distance at this intersection. At the intersection at 2600 North, improvements will be made to significantly widened the road to allow for proper lane widths and turn lanes for increased safety. Also, many sections of this corridor are very narrow and have abrupt edges with no shoulders which are a significant safety concern for not only those in vehicles but also for bikers and pedestrians accessing the right-of-way.

2.13 How are complete streets addressed with this project? (plan for pedestrians, bikes, transit, trails, ITS)

This project greatly facilitates the movement of all forms of transportation through the corridor. Although a specific trail is not being added, additional lanes and shoulders will allow for more safe travel for pedestrians and bikes traveling along the corridor.

2.14 Describe traffic control changes at intersections. (include info to warrant changes) NA

2.15 What right-of-way is already secured?

NA

2.16 What additional right-of-way is needed?

A small corner of the property on the northwest corner of the intersection of 2600 North. Also, property between the Murdock Canal and SR-146 at the Murdock Canal crossing that will be used for the retention pond for the storm water generated from widening SR-146 in Cedar Hills.

2.17 Describe utility work to be performed and indicate who will do the work.

For an approximate 500' section of SR 146, just to the north of the 4000 North in Plesant Grove, in order to have adequate site distance at the 4000 North intersection it will be necessary to lower existing utilities to allow for the lowering of the road by up to 5 feet. It is anticipated that in addition to some public power and gas utilities, that culinary water, secondary water, sewer, and storm drain lines will need to be lowered. If replacement or new installation of other utilities are needed in the corridor, these improvements will be made by the indiviual community or owner of those facilities prior to the proposed reconstruction.

2.18 What type of environmental work will most likely be needed?

Categorical Exclusion

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2.19 Facility Design

	Current Conditions	Design Year 2024	Design Year w/o Improvements
Average Daily Traffic	17,400	27,800	18,600
Level of Service	F	С	F
Functional Class	Collector	Arterial	Arterial
Design Speed	45 MPH	45 MPH	45 MPH
*Accident Rate	Enter Text	Enter Text	Enter Text
Transit Ridership	Enter Text	Enter Text	Enter Text
Ped/Trail Usage	Enter Text	Enter Text	Enter Text
Park and Ride Usage	Enter Text	Enter Text	Enter Text

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3.0 | Project Ranking

The following categories will be used by MPO staff to score each project. The points associated with each category show what total points MPO staff can give. MPO staff's recommendations will be made available to the MPO TAC Committee for their use in making final project selection recommendations. MPO staff ranking is a tool to aid the MPO TAC Committee in their final selection. The committee is not required to pick projects solely on MPO staff ranks. Please note, if questions pertinent to the project are not answered, zero points will be given.

3.1 Congestion Relief (25 Points)

Explain if the project...

- a) Provides an alternate transportation facility that corrects an identified congested problem? NA
- Reduces congestion by reducing the number of vehicles.
 NA
- Reduces the need for additional highway lanes for peak hour capacity.
 NA
- d) Increases the efficiency of transportation system through traffic management measures. This project increases the efficiency of the transporation system by providing a center left turn lane on SR 146 up through 2600 North in Pleasant grove.
- e) Adds turning movements to relieve a congested intersection.

 This project will install an additional lane to create a 3-lane roadway through 2600 North in Pleasant Grove. This will allow left hand turning movements without stopping traffic in the primary travel lane.
- f) Design year number of users. Users include the average AADT for highways and users per day for transit, trails, and other projects.

 The design year average daily traffic is estimated to be 18,600 users in year 2017 and 27,800 users in year 2040 for the busiest segment of SR-146.
- g) 2020 V/C data (computed by MPO staff) Click here to enter text.

3.2 Mode Choice (25 points)

Explain if the project...

a) Benefits multiple transportation systems (transit and highway, pedestrian and transit). Not only will vehicle transportation by benefited with the propose project but pedestrians and bikes traveling in the corridor will be able to travel on the new asphalt shoulders rather than on the edge of the travel lane.

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b) Promotes alternative transportation solution to SOV use.

This project adds shoulders to the existing road cross seciton which will allow for more safe and adequate access for bikes and pedestrians along the corridor.

- c) Creates or improves linkages between transportation modes. NA
- d) Reduces physical, psychological, or economic barriers to carpool, bike, walk, or transit use. Adds shoulders to a very narrow 2-lane road which will increase safety for biking and walking.
- e) Provides incentives to carpool, bike, walk, or transit use. Adds shoulders to a very narrow 2-lane road which will increase safety for biking and walking and encourage those modes of transportation.

3.3 Environmental Quality (15 points)

Explain if the project...

- a) Provides cost effective emission reductions (amount of reduction justifies cost). This project reduces emissions by reducing the amount of congestion and delay that currently occurs in the corridor.
- b) Helps efforts to attain and maintain national air quality standards. This project reduces emissions by reducing the amount of congestion and delay that currently occurs in the corridor.
- c) Minimizes environmental impacts or reduces existing impacts (e.g. air/water/noise pollution). This project reduces emissions by reducing the amount of congestion and delay that currently occurs in the corridor.
- d) Enhances the natural, cultural, or historic environment. NA
- e) Mitigates invasive impacts to existing neighborhoods/commercial areas (minimal relocations). As 99.9% of this project occurs within the existing right-of-way, it is not anticipated that any property takes will be needed. Other than a small corner of property needed at the northwest corner of the 2600 North intersection, the proposed project will not create any invasive impacts to neighborhood/commercial areas, and in fact will reduce noise and air impacts associated with congestion.

3.4 Safety (20 points)

Explain if the project...

a) Corrects/improves a verified or potential safety or accident problem. In addition to adding a travel lane and widening the road section along the entire corridor, this project is proposing to reconstruct a section of the road to the north of the 4000 North

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intersection where a significant site distance issue exists, and to widen the road and add necessary turn lanes at the intersection of 2600 North. These improvements will significantly increase the safety of all modes of transportation along the corridor.

- b) Improves information/communications for traffic operations and emergency responders. NA
- c) Reduces severity of crashes.

This project will widen the shoulders to provide more space for vehicles to pull off of the street and allow left-turning vehicles to get out of through travel lanes.

- d) Enhances safe movement of pedestrian, bicycle traffic. Provides shoulders for use of pedestrian and bicycle traffic.
- e) Provides an intermodal safety improvement (e.g. separation of vehicles-trains, vehiclespedestrian). NA

3.5 Other Considerations (15 points)

Explain if the project...

- a) Effectively distributes funding throughout the MPO area.
 - This project facilitates transportation for the entire length of SR 146 between 2 state highways. This corridor not only provide a significant and needed service to many communities in north Utah County but also to other communites accessing American Fork Canyon from central and south utah County.
- b) Phases project in a manner that the MPO can use limited funds efficiently. As an improvement to the entire corridor is necessary to improve the overall congestion and safety, there are currently no phases being proposed for this project.
- c) Cost effectiveness is appropriate for the amount of improvement made. This project reconstructs the entire corridor to the proposed road cross sections and the cost is appropriate for the amount of improvments being made.
- d) Benefits transportation users from adjacent municipalities. As this project is the reconstruction and widening of an entire state road between HWY 89 and SR 92, transportation users from all adjacent municipalities and throughout the region in general will benefit from this project.
- e) Is supported by elected officials. Elected officials at both the municipal and county levels are in support of this project.

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4.0 | Air Quality Report

All projects that are eligible for CM/AQ and CM/AQ-PM2.5 funds must complete this report. These funds are eligible for projects and programs countywide.

4.1 Eligibility

CM/AQ funds can only be used for projects and programs that a direct benefit to air quality can be demonstrated. Highway expansion, such as new single occupancy vehicle lanes, is not eligible. Turn lanes at congested intersections, transit programs, pedestrian and trail projects, signal modernization, ITS, and IM programs are typical eligible CM/AQ projects.

4.2 CM/AQ Program

The purpose of the CM/AQ program is to fund transportation projects or programs that will contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) in Ozone (O_3), Carbon monoxide (CO), Particulate Matter – 10 microns (PM_{10}), and $PM_{2.5}$ non-attainment and maintenance areas. The city of Provo is a maintenance area for CO and Utah County is a non-attainment area for PM_{10} and $PM_{2.5}$.

4.3 Completing this Report

All projects eligible for CM/AQ funds must complete this report. Completing this report can be quite technical, Susan Hardy, Air Quality Coordinator at Mountainland, can help with filling out this report. Contact her at 801/229-3842 or shardy@mountainland.org

4.4 Quantitative Analyses

A quantitative assessment of how a proposed project or program is expected to reduce emissions is important to assist in selecting the most effective use of this fund. List below all travel benefits directly related to this project. Air quality benefit calculations must utilize Mobile 6. The air quality analysis should include assessing emission reductions of transit, traffic flow improvements, ITS projects and programs, ridesharing, bicycle and pedestrian improvements. Complete at least one of the sections below. If quantitative analyses cannot be done, do a qualitative assessment in 4.3.

a) Vehicle Miles Traveled

Number of Vehicle Miles Traveled reduced (VMT): Click here to enter text.

Average distance of trips reduced: Click here to enter text.

Emission reduction per average weekday: Click here to enter text.

b) Idling Time

Average idling time per vehicle reduced: Click here to enter text. Number of vehicles with reduced idling time: Click here to enter text. Emission reduction per average weekday: Click here to enter text.

C) Vehicle Speed

Average change in vehicle speed (speed before and after): Click here to enter text.

Number of vehicles affected: Click here to enter text.

Emission reduction per average workday: Click here to enter text.

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4.5 Qualitative Assessment

Although a quantitative analyses of air quality impacts is required whenever possible, some improvements may not lend themselves to rigorous quantitative analysis, because of the projects characteristics or because practical experience is lacking to adequately analyze the project. In these cases, a qualitative assessment based on a reason and logical examination of how the project or program will decrease emissions and contribute to attainment or maintenance of a NAAQS is appropriate.

Click here to enter text.

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5.0 | Project Cost Estimate

To development a project cost estimate, please supply a detailed cost breakdown of your unit costs, inflation, equipment, right-of-way, contingency, etc. To do so, use the Concept Costs Estimate Excel form provided by UDOT (available on Mountainland.org website). Non-construction projects such as equipment purchases, operations, administration programs, studies, etc. can use other methods to show their estimated costs. All sheets or methods used should be submitted as part of the Supplemental Information accompanying the Concept Report.

5.1 Cost Summary

Summarize the information from the Costs Estimate Excel form or other method. Enter NA for items that do not apply to the project.

- a) Preliminary Engineering \$490,000
- b) Environmental Work \$50,000
- c) Construction \$7,068,000
- d) UDOT Review (project cost <\$500k = \$5k, >500K = \$10k) \$10,000
- e) Construction Engineering \$613,000
- f) Subtotal \$8,231,000
- g) Inflated Cost Factor (inflate to year of construction) \$1,283,000
- h) Total Cost \$9,514,000
- i) Non-MPO Funds Available to Project \$2,911,240
- j) MPO Federal Funds Request (includes 6.77% local match) \$6,602,760

6.0 | Supplemental Information

Please submit any supporting documentation including maps, diagrams, charts, cost estimates, etc. that will allow MPO and UDOT staff and any Technical Advisory Committee to make an informed decision regarding the proposed project. **Keep Supplemental Information submittals to 8 pages total**.

6.1 Concept Report Submittal

In order to facilitate the distribution of the Concept Reports and any supplemental information, all Concept Reports shall be combined with any supplemental information and saved in PDF format as one document. Please note that this might create a large data file that might be too large to emailed. Plan accordingly to submit your report in electronic format (CD, DVD, Flash Drive) by the required due date. Concept Reports are due by Thursday 24 April 2014 at 6pm.

6.2 Contacts, Questions

For help with the Concept Report or questions, please contact:

Shawn Eliot, AICP 586 East 800 North, Orem, UT 84097 p.801/229-3841 f.801/229-3801 email seliot@mountainland.org

PLEASANT GROVE - CEDAR HILLS

AMERICAN FORK CANYON C-107 C-106 American Fork C-105 C-104 C-103 Pleasant Grove

VICINITY MAP / SHEET LAYOUT

SR-146 RECONSTRUCTION AND WIDENING

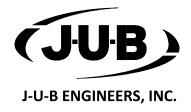
APRIL 2014

CONCEPTUAL ONLY - NOT FOR CONSTRUCTION

SHEET INDEX

G-001 COVER INDEX C-101 - C-120 PLAN SHEETS

PROJECT NO. 50-13-056-014



OTHER J-U-B COMPANIES





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