1.0 | Project Summary Information

1.1 Project Name (35 letters max) 1600 North Orem ROW / Corridor Preservation

1.2 Project Type Corridor Preservation

1.3 Limits (descriptions should be identifiable. i.e: intersections, place names, landmarks, 35 characters max) 1200 West to State Street

1.4 Project Description (summary of project) 1600 North widening is a phased project. This phase is for right-of-way acquisition / corridor preservation. Construction of the 5-lane arterial will happen in future project phases.

1.5 Sponsor (jurisdiction, agency name) City of Orem

1.6 Contact Information

   Project Manager: Paul Goodrich
   Office Phone: 801-229-7320
   Cell Phone: 801-592-4160
   Fax: 801-229-7191
   Email: prgoodrich@orem.org

1.7 Cost Estimate

   Total Project Cost (include matches, pledged funds, etc.) $ 3,000,000
   MPO funding request (include any match) $ 3,000,000
   PE Cost: Click here to enter text.
   ROW Cost: $ 3,000,000
   Construction Cost: Click here to enter text.
   Soft Match proposed for project: $203,100

1.8 Project Rank (rank this project compared to your other submittals)

   1

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

   To be determined in the 2018 Corridor Study.
2.0 | Project Scope
Always enter “NA” rather than leave an answer blank...

2.1 Describe purpose and need of project.
This funding will be used for right-of-way acquisition / corridor preservation for the eventual completion of a 5-lane Arterial from I-15 to State Street. The construction of this Arterial is identified on MAG's Phase 1 Plan (2015 - 2024). MAG's traffic model has identified that 1600 North in this area is a regionally significant Arterial that needs to be constructed by 2024. Having a completed Arterial highway between I-15 and State Street will be regionally significant. Widening of 1600 North from I-15 to Geneva Road, and from I-15 to 1250 West, has been completed by the UDOT I-CORE Project.

2.2 Describe existing service/conditions
LOS F in peak hour conditions.

2.3 Highway Project Information (for non-highway projects go to 2.4)

2.3.1 State Route # or Federal Aid Route #
2946

2.3.2 Beginning Mile Post
Bob says mile post specifics are not needed.

2.3.3 End Mile Post
Bob says mile post specifics are not needed.

2.3.4 Length of project
Approximately 1 mile

2.3.5 Existing and proposed number of Travel Lanes
For the future construction project(s) there will be 5-lanes.

2.3.6 Current and proposed width of facility (detail ROW, lanes, shoulders, ped/planter).
1600 North is currently 3-lane with narrow shoulders. The Arterial highway needs to have a 5-lane cross-section with shoulders.

2.3.7 Facility surface type.
asphalt

2.3.8 Describe how project is consistent with local or agency plans.
The construction of this Arterial is identified on MAG's Phase 1 Plan (2015 - 2024). MAG's traffic model has identified that 1600 North in this area is a regionally significant Arterial that needs to be constructed by 2024. The Orem Transportation Master Plan is consistent with MAG's plan.
2.3.9 Describe how project incorporates ITS needs.
Specific ITS strategies will be handled in future construction projects.

2.3.10 If phased or segmented, describe how the phase has logical termini and what will future phases consist of.
Logical termini: I-15 to the west and State Street to the east.

2.3.11 Is project being coordinated with or constructed with a larger project?
YES - the project has been phased over multiple years.

2.3.12 Describe how project will alleviate congestion on this or other facilities.
MAG's traffic model has identified that 1600 North in this area is a regionally significant Arterial that needs to be widened to a 5-lane arterial constructed by 2024.

2.3.13 Describe any traffic improvements. (i.e lanes, signal coordination, ITS, turn lanes, bus pullouts, etc.)
ROW for a future street widening project(s).

2.3.14 Describe any safety improvements for vehicular and pedestrian traffic. (i.e. raised median, channelization of turn movements, barriers, parkway strips, etc.)
To be determined in the 2018 corridor study.

2.3.15 How are complete streets addressed with this project? (plan for pedestrians, bikes, transit, trails, ITS)
To be determined in the 2018 corridor study.

2.3.16 Describe traffic control changes at intersections. (include info to warrant changes)
To be determined in the 2018 corridor study.

2.3.17 What right-of-way is already secured?
ROW in previous construction phases has been purchased. ROW for future construction phases needs to be acquired.

2.3.18 What additional right-of-way is needed?
The 2018 study will identify needed ROW. North side widening verses south side widening will be analyzed. We are in the process of hiring Horrocks Engineers to aid with the corridor study process.

2.3.19 Describe utility work to be performed and indicate who will do the work.
To be determined in the 2018 corridor study.

2.3.20 What type of environmental work will most likely be needed?
Categorical Exclusion
2.4 Non-Highway Projects (Transit / ITS / Active Transportation, Park and Ride, etc.)

2.4.1 Transit Route #
UTA Route 862- which carries approximately 500-600 per day per Ken Anson.

2.4.2 Length of project
One mile

2.4.3 What is the expected use of the facility or program?
ROW Preservation

2.4.4 What services are provided in the operating of this project?
NA

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

2.4.6 Describe how project is consistent with local or agency plans.
The construction of this Arterial is identified on MAG's Phase 1 Plan (2015 - 2024).
MAG's traffic model has identified that 1600 North in this area is a regionally significant Arterial
that needs to be constructed by 2024. The Orem Transportation Master Plan is consistent with
MAG's plan.

2.4.7 Describe how project incorporates ITS needs.
To be determined in the 2018 Study.

2.4.8 If phased or segmented, describe how the phase has logical termini and what will future
phases consist of.
I-15 and State Street are logical termini on each end of the corridor.

2.4.9 Is project being coordinated with or constructed with a larger project?
Phased over several years.

2.4.10 Describe how project will alleviate congestion on this or other facilities.
Additional travel lanes, possible bike lanes, and transit specific enhancements (bus
shelters, bus compliant shoulders, etc.) will expand the capacity of this MAG Phase 1 Project.

2.4.11 Describe any traffic improvements. (i.e lanes, signal coordination, ITS, turn lanes, bus pullouts,
etc.)
To be determined in the 2018 corridor study.

2.4.12 Describe any safety improvements for transit and pedestrian traffic. (i.e. raised median,
channelization of turn movements, barriers, parkway strips, bridges, etc.)
To be determined in the 2018 corridor study.
2.4.13 How are complete streets addressed with this project? (plan for pedestrians, bikes, transit, trails, ITS)
   To be determined in the 2018 corridor study.

2.4.14 What right-of-way is already secured?
   Previous construction phases.

2.4.15 What additional right-of-way is needed?
   To be determined in the 2018 corridor study.

2.4.16 Describe utility work to be performed and indicate who will do the work.
   To be determined in the 2018 corridor study.

2.4.17 What type of environmental work will most likely be needed?
   Categorical Exclusion

2.5 Facility Design

<table>
<thead>
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<th></th>
<th>Current Conditions</th>
<th>Design Year Click here to enter</th>
<th>Design Year w/o Improvements</th>
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<td>2024</td>
<td>25,000</td>
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<td>Level of Service</td>
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<td>Functional Class</td>
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<td>35</td>
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</tr>
<tr>
<td>Park and Ride Usage</td>
<td>NA</td>
<td>2018 Study</td>
<td>NA</td>
</tr>
</tbody>
</table>
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? A LOS F in the peak hour could be corrected to a LOS C (2024) by widening the road, providing better access management, improving transit potential, and providing better pedestrian and bike facilities.

b) Reduces congestion by reducing the number of vehicles. Vehicle reduction can occur if a future BRT/LRT (or other enhanced transit option) corridor is identified to get future transit from Geneva Road to State Street on 1600 North. UTA bus route 862 on 1600 North has 510 riders per day. UTA bus route 850 on State Street has 2100 riders per day. The intersection of 1600 North and State Street is a significant route transfer location for UTA.

c) Reduces the need for additional highway lanes for peak hour capacity. NA

d) Increases the efficiency of transportation system through traffic management measures. The goal is to identify ways to eliminate on-street parking friction, and provide a frontage road for neighborhood consolidated access to also reduce friction.

e) Adds turning movements to relieve a congested intersection. Intersection improvements (dual left turn lanes, exclusive right turn lanes, etc.) will be provided along the corridor at signalized intersections to relieve congestion - and will be determined in the 2018 corridor study.

3.2 Mode Choice (25 points)
Explain if the project...

a) Benefits multiple transportation systems (transit and highway, pedestrian and transit). A future BRT/LRT corridor (or other enhanced transit) is desired on 1600 North to get future transit from Geneva Road to State.

b) Promotes alternative transportation solution to SOV use.
Future BRT/LRT and multi-purpose trail (see 3.2a above). Possible bike lanes if full takes are approved in the environmental clearance process.

c) Creates or improves linkages between transportation modes. To be vetted in the impending State Street Transit Study.

d) Reduces physical, psychological, or economic barriers to carpool, bike, walk, or transit use. There is significant potential to accomplish these goals. To be vetted in the impending 2018 corridor study - and the impending State Street Transit Study.

e) Provides incentives to carpool, bike, walk, or transit use. There is significant potential to accomplish these goals. To be vetted in the impending 2018 corridor study - and the impending State Street Transit Study.

3.3 Environmental Quality (15 points)
Explain if the project...

a) Provides cost effective emission reductions (air quality score). Reducing the LOS from F to C will reduce emissions.

b) Minimizes environmental impacts or reduces existing impacts (e.g. air/water/noise pollution). Less idling and stop/starting helps air quality. Also, there is a potential for significant transit - bike - pedestrian improvements with the project.

c) Enhances the natural, cultural, or historic environment. LID stormwater technologies are anticipated to be used with the project that will be incorporated into landscaped areas.

d) Mitigates invasive impacts to existing neighborhoods/commercial areas (minimal relocations). Extensive landscaping is expected to be provided that will enhance the "natural" environment.

3.4 Safety (20 points)
Explain if the project...

a) Corrects/improves a verified or potential safety or accident problem. This project will most likely allow the removal of two way left turn lanes in many locations which are often a safety problem. Exclusive turn lanes and medians can be added to better protect vehicles and pedestrians. Also, the implemention of a frontage road will significantly decrease the number of access points on the road (use of excellent access management standards). All of this to be finalized in the 2018 corridor study.

b) Improves information/communications for traffic operations and emergency responders. This project will add 2 additional lanes to better manage vehicle traffic for emergency responders, and access management practices will minimize conflicts.

c) Reduces severity of crashes.
By improving operations, the crash rate should improve and stay below the state average.

d) Enhances safe movement of pedestrian, bicycle traffic.
   Having more ROW to work with will allow the possibility of enhancing pedestrian and bicycle
   facilities. There will be opportunities for bike lanes and/or multi-purpose trails. This will be
   vetted out in the 2018 corridor study.

e) Provides an intermodal safety improvement (e.g. separation of vehicles-trains, vehicles-
   pedestrian).
   Pedestrian facilities and crossings will be able to be enhanced with this project

3.5 Other Considerations (15 points)
Explain if the project...

a) Effectively distributes funding throughout the MPO area.
   Phasing the project starting over several yares helps MAG distribute funding throughout the
   MPO area.

b) Phases project in a manner that the MPO can use limited funds efficiently.
   Several project phases have occurred over time (last 12 years) and will continue to be phased
   over time.

c) Additional funding above required match is pledged toward project (including any soft match).
   NA

d) Project sponsor ranking of project.
   1

e) Project is numbered project within the current RTP.
   Phase 1 Project
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. Contact Susan Hardy at Mountainland AOG if you need help completing 4.4 Quantitative Analysis below, 801/229-3842 or shardy@mountainland.org.

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 (O₃), Carbon monoxide (CO), Particulate Matter – 10 microns (PM₁₀), and PM₂.₅ non-attainment and maintenance areas. The city of Provo is a maintenance area for CO and Utah County is a non-attainment area for PM₁₀ and PM₂.₅.

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): see 4.5
Average distance of trips reduced: see 4.5
Emission reduction per average weekday: see 4.5

b) Idling Time
Average idling time per vehicle reduced: see 4.5
Number of vehicles with reduced idling time: see 4.5
Emission reduction per average weekday: see 4.5

C) Vehicle Speed
Average change in vehicle speed (speed before and after): see 4.5
Number of vehicles affected: see 4.5
Emission reduction per average workday: see 4.5
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.
A qualitative analysis will be completed in the 2018 corridor study. The emission reduction could be significant if homes on one side of the corridor are purchased with a frontage road provided on one side of the street for existing homes. The potential for improvements in access management, bike and pedestrian improvements, and transit improvements is significant.
1600 North - 1200 West to State Street
Phase 5 ROW

1600 North, I-15 to 325 West

Lindon

325 West
400 West
800 West
1200 West
I-15

Phased Project
1-3 Complete