



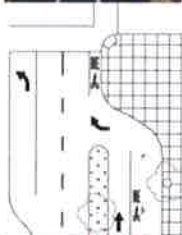
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1.0 | Project Summary Information

1.1 Project Name (35 letters max) 1600 North Widening

1.2 Project Type Road - Widen



1.3 Limits (descriptions should be identifiable. i.e: intersections, place names, landmarks, 35 characters max) I-15 to State Street



1.4 Project Description (summary of project) The City of Orem has federal funding in 2017 to evaluate widening options in an environmental clearance process. If widening on the south side is approved the total estimated ROW cost is \$10,179,000 (see attachments). With power lines on the north side of 1600 North a north widening option may not be feasible. Due to MAG funding constraints project phasing is necessary. With an environmental approval anticipated in 2017 we will need funding no later than 2020 to start purchasing ROW to keep the environmental document valid.



1.5 Sponsor (jurisdiction, agency name) City of Orem



1.6 Project Manager Paul Goodrich

Office Phone 801-229-7320 **Cell Phone** 801-592-4160
Fax 801-229-7191 **Email** pgoodrich@orem.org



1.7 Total Project Cost (includes local match and additional funds) \$ 5 Million

PE Cost \$150,000
ROW Cost \$ 5 Million
Construction Cost NA

Funds already available to project (less local match) \$338,500
MPO Federal Funds Request (includes 6.77% local match) \$ 5,000,000




1.8 Local/Regional Significance

- Is project in local general plan? **Yes**
- 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)
 N/A for ROW phase.

1.10 Leadership Approval (local=mayor, manager, commissioner; state=dept. head). Acknowledges knowledge, support and approval to submit project to Mountainland.

	<u>CITY MANAGER</u>	<u>18 MARCH 2014</u>
Signature	Position	Date
<u>JAMES P. DAVIDSON</u>		

2.0 | Project Scope

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

2.1 Describe purpose and need of project.

This phased project will widen 1600 North from 3-lanes to 5-lanes to improve the flow of traffic on this regionally significant arterial. The 2015 ADT on this section of 1600 North ranges from 18,550 to 19,600 and has a peak hour LOS F (traffic failure conditions). The projected 2040 AADT will range from 27,000 to 32,000.

2.2 Describe existing service/conditions

1600 North in this area has one travel lane in each direction with a center two way left turn lane.

2.3 Highway Project Information

SR# or FA#

FAR 2946

Beginning Mile Post

n/a

End Mile Post

n/a

Length of project

0.9 miles

Existing number of Travel Lanes

One lane in each direction with a center two way left turn lane.

Width of facility.

50 feet of asphalt width with 63 feet to back of walk typical.

Facility surface type.

Asphalt

2.4 Transit / Pedestrian Facility Project Information

Route#

UTA bus route 862 on 1600 North with 510 riders per day. UTA bus route 850 on State Street with with 2100 riders per day. The intersection of 1600 North and State Street is a significant route transfer location for UTA.

Length of project

0.9 miles

What is the expected use of the facility or program?

Improve sidewalks, update to ADA requirements, provide connectivity, separate sidewalk from travel lanes where feasible.

What services are provided in the operating of this project?

Connectivity to parks, residential neighborhoods, shopping, schools, churches, and employment.

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

n/a

2.6 Describe how project is consistent with local plans.

Matches MPO Phase 1 Plan, and local City Transportation Master Plan/General Plan

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

This project does not interfere with the June 2008 ITS plan.

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

I-15 to State Street are logical termini for 1600 North improvements as identified in the MPO Phase 1 Plan. The first funding phase (FY 2017) will include clearing the environmental process for the entire project length, and also improving the existing 1200 West intersection. Future phases will include Right-of-Way acquisition, final design by segments, and construction of segments and intersection improvements as identified in the environmental document for a total of 5 or more funding phases. We plan on beginning the environmental process as soon as October 2016 and obtaining clearance in 2017. A steady stream of funding will be needed to insure that a lapse of the document does not occur.

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

It will be phased into smaller pieces and implemented over 5 or more funding phases.

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

The project will add one lane in each direction that will significantly increase the capacity of the regionally significant arterial. Minimizing access management conflicts can help to maximize congestion relief.

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

Two new travel lanes, signal modifications, intersection improvements, improved ADA as needed, buffered sidewalks, possible bike lanes, turn lanes, and bus pullouts will be potential improvements identified in the 2017 environmental clearance.

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

This project will likely require multiple whole property takes due to the nature of the widening.

These takes are usually more than the project will actually need to widen the roadway. The leftover or extra ROW can be used to provide improvements that would increase safety (wide seperated sidewalks or multi-purpose trails, raised medians, bike lanes, frontage roads to minimize the number of access points, right turn decelerations lanes - all items to be vetted in an environmental design process).

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

As detailed in 2.12, the extra ROW required to be taken can be used to add better bus stops, wider trails or walks, and landscaped areas.

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

Future signalized intersections will be identified and planned for and existing intersections will be upgraded as needed.

2.15 What right-of-way is already secured?

Minimal

2.16 What additional right-of-way is needed?

Possible maximum of full takes on 25 homes - minimum of 8 feet of partial takes from properties (either all on one side, or both sides of the street). The environmental clearance process will define the ultimate solution.

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

There will be some utility laterals or manholes affected by the project. There will also be some drainage requirements that will be added to accommodate the additional runoff.

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

Environmental Accessment

2.19 Facility Design

	Current Conditions	Design Year 2040	Design Year w/o Improvements
Average Daily Traffic	19,600	32,000	25,000
Level of Service	F	D	F
Functional Class	Major Arterial	Major Arterial	Major Arterial
Design Speed	35	40	35
*Accident Rate	4.08	4.32	4.32+

Transit Ridership	510	2100	900
Ped/Trail Usage	500	1500	1000
Park and Ride Usage	n/a	potential	n/a

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?
An identified LOS F (2015) in the peak hour could be corrected to a LOS D (2040) 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 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.
- f) Design year number of users. Users include the average AADT for highways and users per day for transit, trails, and other projects.
27000-32000
- g) 2020 V/C data (computed by MPO staff)
0.5 to 0.78

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 is desired on 1600 North to get future transit from Geneva Road to State

Street on 1600 North. This will be vetted in the pending environmental process for 1600 North, and a possible Rail study sometime in the future. A separated multi-purpose trail is also anticipated with the project. UTA bus route 862 on 1600 North with 510 riders per day. UTA bus route 850 on State Street with with 2100 riders per day. The intersection of 1600 North and State Street is a significant route transfer location for UTA.

- 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 a future Rail 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 2017 (October 2016) environmental clearance process, and in a future Rail 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 2017 (October 2016) environmental clearance process, and in the future Rail study.

3.3 Environmental Quality (15 points)

Explain if the project...

- a) Provides cost effective emission reductions (amount of reduction justifies cost).
By adding lanes, there will be less congestion, ideling, and time stopped at intersections.
- b) Helps efforts to attain and maintain national air quality standards.
Less idling and stop/starting helps air quality. Also, there is a potential for significant transit - bike - pedestrian improvements with the project.
- c) Minimizes environmental impacts or reduces existing impacts (e.g. air/water/noise pollution).
LID stormwater technologies are anticipated to be used with the project that will be incorporated into landscaped areas.
- d) Enhances the natural, cultural, or historic environment.
Extensive landscaping is expedted to be provided that will enhance the "natural" environment.
- e) Mitigates invasive impacts to existing neighborhoods/commercial areas (minimal relocations).
There is the potential to enhance surrounding neighborhood areas by improving walkability/bikeability/transit.

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. Turn lanes and medians can be added to better protect vehicles and pedestrians. Also, the implementation of a frontage road will significantly decrease the number of access points on the road (use of excellent access management standards).
- 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.
The existing severe crash rate is 7.55, with the average for a similar facility at 9.10. By improving operations, the crash rate should improve and stay below the average.
- d) Enhances safe movement of pedestrian, bicycle traffic.
Having more ROW to work with will allow the possibility of enhanced pedestrian and bicycle facilities. There will be opportunities for bike lanes and/or multi-purpose trails. This will be vetted out in the environmental process.
- 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 with environmental in FY2017 (October 2016), ROW purchases beginning in 2019/20, intersection improvements in 2021/22, and roadway segments in future years, we can help MAG distribute funding throughout the MPO area. The key is to not let the environmental lapse by not making continuing improvements.
- b) Phases project in a manner that the MPO can use limited funds efficiently.
The 2017 environmental document can help to describe in more detail how phasing can occur without draining the available MAG funds.
- c) Cost effectiveness is appropriate for the amount of improvement made.
The cost to add capacity will improve the operations at all adjacent east/west facilities and 15 interchanges adjacent to 1600 North.
- d) Benefits transportation users from adjacent municipalities.
The Canyon Park Technology Center (old Word Perfect) on 1600 North at 800 East has nearly 1 million square feet of office space, and has 7,400 employees. This campus is not built out and is

not the only employer in the area. Also, 1600 North and 800 East create a regional "belt route" through Orem that connects I-15 to 800 North, Center Street, and University Parkway. Our future Plan is to have that belt route widened to a 5-lane major arterial. This project has significant benefits for many communities outside of Orem.

e) Is supported by elected officials.

YES - It was recently adopted on our Transportation Master Plan as a priority project. It is also on the MAG Phase 1 Plan.

4.0 | Air Quality Report

All projects that are eligible for CM/AQ and CM/AQ-PM2.5 funds must complete this report (see CM/AQ Eligibility list at www.mountainland.org/tipselection). 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 (O₃), Carbon monoxide (CO), Particulate Matter – 10 microns (PM₁₀), 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 PM₁₀ 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): 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.

The Qualitative analysis will be completed in the environmental analysis expected to be completed in 2017. The emission reduction could be minimal if minimum widening with little or no access management ends up to be the approved plan. Significant air quality benefits can be achieved if homes on one side of the corridor are purchased (access points only at intersections), a frontage road is built for the homes on the other side of the road with consolidated access points, bike lanes and or a multi-purpose trail is provided, a future BRT/LRT route is adopted, etc.

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 at www.mountainland.org/tipselection). 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 \$150,000
- b) Environmental Work Handled in the FY 2017 Environmental analysis.
- c) Construction Phased in future projects.
- d) UDOT Review (project cost <\$500k = \$5k, >500K = \$10k) Handled in the FY 2017 Environmental analysis.
- e) Construction Engineering Phased in future projects.
- f) Subtotal Click here to enter text.
- g) Inflated Cost Factor (inflate to year of construction) Click here to enter text.
- h) **Total Project Cost** (enter total cost, not funding request)) \$ 5 Million
- i) **Additional Funds** (less local match) Available to Project \$ 338,500
- j) **MPO Federal Funds Request** (includes 6.77% local match) \$ 4,661,500

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 with leadership signature, 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 03/24/2016 at 6pm.**

6.2 Contacts, Questions

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

Bob Allen, AICP
586 East 800 North, Orem UT 84651
p.801/229-3813 f.801/229-3801
email ballen@mountainland.org

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

email seliot@mountainland.org

1600 NORTH - INTERSTATE 15 TO 280 WEST

280 WEST

400 WEST

800 WEST

1200 WEST

STATE STREET

1600 NORTH

OREM 1600
NORTH
- STATE STREET TO
275 WEST -

FUTURE 1600 NORTH WIDENING PROJECT

INTERSTATE 15



South Side of 1600 North from 1200 West to 950 West

Address 1600 North Orem	County Assessed Value	Assumed Retail Value	Additional Purchase Costs *	Demolition Restoration Landscaping *	Total Estimated Cost
1113 West	253 K	303,600	9.7 K	47 K	\$ 360,300
1558 N. 1100 W.	222 K	266,400	9.7 K	47 K	\$ 323,100
1065 West	218 K	261,600	9.7 K	47 K	\$ 318,300
1053 West	233 K	279,600	9.7 K	47 K	\$ 336,300
1584 N. 1040 W.	200 K	240,000	9.7 K	47 K	\$ 296,700
1027 West	189 K	226,800	9.7 K	47 K	\$ 283,500
1013 West	212 K	254,400	9.7 K	47 K	\$ 311,100
1001 West	188 K	225,600	9.7 K	47 K	\$ 282,300
987 West	204 K	244,800	9.7 K	47 K	\$ 301,500
975 West	259 K	310,800	9.7 K	47 K	\$ 367,500
2016 Total Costs		\$ 2,613,600	\$2,710,600	\$3,180,600	\$ 3,180,600

* Additional Purchase Costs: Appraisals (\$800), ROW Agent (\$1200), Relocation Agent (\$500), Relocation Costs (\$5000), Title Company (\$2,200)

* Demolition / Site Restoration / Landscaping Costs: Asbestos Removal and Demolition (\$32,000), Site Restoration / Landscaping (\$15,000)

South Side of 1600 North from 950 West to 800 West

Address 1600 North Orem	County Assessed Value	Assumed Retail Value	Additional Purchase Costs *	Demolition Restoration Landscaping *	Total Estimated Cost
1592 N. 950 West	298 K	357,600	9.7 K	47 K	\$ 414,300
927 West	262 K	314,400	9.7 K	47 K	\$ 371,100
907 West	339 K	406,800	9.7 K	47 K	\$ 463,500
893 West	317 K	380,400	9.7 K	47 K	\$ 437,100
885 West	205 K	246,000	9.7 K	47 K	\$ 302,700
871 West	193 K	231,600	9.7 K	47 K	\$ 288,300
857 West	213 K	255,600	9.7 K	47 K	\$ 312,300
843 West	207 K	248,400	9.7 K	47 K	\$ 305,100
831 West	250 K	300,000	9.7 K	47 K	\$ 356,700
1587 N. 800 West	239 K	286,800	9.7 K	47 K	\$ 343,500
2016 Total Costs		\$ 3,027,600	\$ 3,124,600	\$ 3,594,600	\$ 3,594,600

* Additional Purchase Costs: Appraisals (\$800), ROW Agent (\$1200), Relocation Agent (\$500), Relocation Costs (\$5000), Title Company (\$2,200)

* Demolition / Site Restoration / Landscaping Costs: Asbestos Removal and Demolition (\$32,000), Site Restoration / Landscaping (\$15,000)

South Side of 1600 North from 800 West to State Street

Address 1600 North Orem	County Assessed Value	Assumed Retail Value	Additional Purchase Costs *	Demolition Restoration Landscaping *	Total Estimated Cost
1585 N. 740 West	245 K	294,000	9.7 K	47 K	\$ 350,700
1584 N. 740 West	221 K	265,200	9.7 K	47 K	\$ 321,900
715 West	285 K	342,000	9.7 K	47 K	\$ 398,700
699 West	188 K	225,600	9.7 K	47 K	\$ 282,300
689 West	253 K	303,600	9.7 K	47 K	\$ 360,300
671 West	243 K	291,600	9.7 K	47 K	\$ 348,300
1587 N. 650 West	300 K	360,000	9.7 K	47 K	\$ 416,700
645 West	233 K	279,600	9.7 K	47 K	\$ 336,300
633 West	236 K	283,200	9.7 K	47 K	\$ 339,900
609 West	160 K	192,000	9.7 K	47 K	\$ 248,700
2016 Total Costs		\$ 2,836,800	\$ 2,933,800	\$ 3,403,800	\$ 3,403,800

* Additional Purchase Costs: Appraisals (\$800), ROW Agent (\$1200), Relocation Agent (\$500), Relocation Costs (\$5000), Title Company (\$2,200)

* Demolition / Site Restoration / Landscaping Costs: Asbestos Removal and Demolition (\$32,000), Site Restoration / Landscaping (\$15,000)