1.0 | Project Summary Information

1.1 Project Name (35 letters max) Zero Fare BRT

1.2 Project Type Transit - TDM

1.3 Limits (descriptions should be identifiable. i.e: intersections, place names, landmarks, 35 characters max) New Provo to Orem BRT route along University Avenue to BYU then on University Parkway toward UVU connecting with Frontrunner stations in both Provo and Orem.

1.4 Project Description (summary of project) This project would provide funding in the amount of $600,000 a year for three years for a total of $1.8m, along with additional money from BYU and UVU to off-set costs, to allow UTA to implement zero fare service to ride UTA's new BRT Route in Provo and Orem. The new BRT service connects to the UTA Frontrunner stations for regional connectivity to key regional origins and destinations in Provo and Orem. It is anticipated that this zero fare service would continue after the three years by growth in local funding. This would also save project costs by not requiring UTA to purchase fare collection equipment for the BRT project itself.

1.5 Sponsor (jurisdiction, agency name) Mountainland MPO

1.6 Contact Information

   Project Manager Chad Eccles
   Office Phone 801-229-3824
   Cell Phone 801-891-0682
   Fax 801-229-3801
   Email ceccles@mountainland.org

1.7 Cost Estimate

   Total Project Cost (include matches, pledged funds, etc.) $7.8 m
   MPO funding request (include any match) $1,921,860
   PE Cost n/a
ROW Cost n/a
Construction Cost n/a
Soft Match proposed for project none

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)

The BRT project is expected to carry 8,000 riders a day with a fare and no passes, and as a fare free service studies have shown ridership would increase another 60% to 12,800 riders a day. The increased mobility and connectivity to other transit modes such as commuter rail, light rail, and bus will have an exponential impact on all transit services. It is anticipated that this service would allow for students to have the impression that they may not need a car or vehicle to get them to places they need to get to. Even for those out of state that may be flying to get to school would now have a high quality transit connection from the Salt Lake International Airport all the way to campus or to their apartment.
2.0 | Project Scope
Always enter “NA” rather than leave an answer blank...

2.1 Describe purpose and need of project.
Zero fare BRT project would provide funding in the amount of $600,000 a year for three years for a total of $1.8m, this money along with additional money from an agreement with BYU and UVU to provide passes to their students, faculty, and their dependants, to allow UTA to implement zero fare service to ride UTA's new BRT Route in Provo and Orem. The new BRT service connects to the UTA Frontrunner stations for regional connectivity to key regional origins and destinations in Provo and Orem. It is anticipated that this zero fare service would continue after the three years by growth in local funding. This funding would also save project costs in construction by not requiring UTA to purchase fare collection equipment for the BRT project itself.

2.2 Describe existing service/conditions
The existing service consist of a bus line that has 15 minute frequency. The BRT Project is currently under construction and is anticipate to have 6 minute frequency.

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

2.3.1 State Route # or Federal Aid Route #
Geneva Road, University Avenue and University Parkway

2.3.2 Beginning Mile Post
NA

2.3.3 End Mile Post
NA

2.3.4 Length of project
10 miles

2.3.5 Existing and proposed number of Travel Lanes
On the University Parkway diagonal two additional travel lanes are being added.

2.3.6 Current and proposed width of facility (detail ROW, lanes, shoulders, ped/planter).
24 feet wide dedicated BRT lanes with various amenities and enhancements for pedestrians.

2.3.7 Facility surface type.
Concrete and asphalt

2.3.8 Describe how project is consistent with local or agency plans.
BRT is listed in the MAG RTP and Local City Plans
2.3.9 Describe how project incorporates ITS needs.
The BRT incorporates traffic signal coordination and a traffic signal priority for the BRT vehicles.

2.3.10 If phased or segmented, describe how the phase has logical termini and what will future phases consist of.
The Project connects two Frontrunner stations and the two major universities in the county to Downtown Provo and important regional centers.

2.3.11 Is project being coordinated with or constructed with a larger project?
Yes, it includes a road widening improvement project on University Parkway adding an additional two general purpose lanes east of 800 East in Orem in addition to the transit BRT lanes.

2.3.12 Describe how project will alleviate congestion on this or other facilities.
It is estimated that 8,000+ riders a day will use the BRT helping to alleviate vehicular congestion. Also the additional travel lanes will allow for greater capacity.

2.3.13 Describe any traffic improvements. (i.e lanes, signal coordination, ITS, turn lanes, bus pullouts, etc.)
At selected intersections the BRT will have traffic signal priority which will extend the green time if the BRT is late, this will help keep the system on schedule. Stations will be in the median and in their own bus only lanes so as to not create side friction with traffic. Key signals are receiving an upgraded controller and being coordinated to better manage current and BRT system demands.

2.3.14 Describe any safety improvements for vehicular and pedestrian traffic. (i.e. raised median, channelization of turn movements, barriers, parkway strips, etc.)
The BRT lanes will be a median. Turn movements were enhanced on University Parkway and additional turn pockets created. BRT Stations will be in the median with their own bus only lanes, thus the acceleration and deceleration will not affect adjacent traffic. Also, an additional signal was added infront of University Mall allowing for better and safer exit for mall patrons.

2.3.15 How are complete streets addressed with this project? (plan for pedestrians, bikes, transit, trails, ITS)
The college connector trail is being rebuilt to betttter align with the new roadway and transit stations. The Provo River trail was also enhanced and made safer under the newly reconstructed bridge done as part of the project.

2.3.16 Describe traffic control changes at intersections. (include info to warrant changes)
Intersection signaling is being upgraded and will include special elements for the BRT including traffic signal priority and better pedestrian timing.

2.3.17 What right-of-way is already secured?
Almost all of the needed ROW is secured by the construction project.

2.3.18 What additional right-of-way is needed?
Small pieces that are being acquired by the construction project.

2.3.19 Describe utility work to be performed and indicate who will do the work.
Various utility improvements including additional storm drain and utility upgrades done by the contractor.

2.3.20 What type of environmental work will most likely be needed?
Environmental Impact Statement

2.4 Non-Highway Projects (Transit / ITS / Active Transportation, Park and Ride, etc.)

2.4.1 Transit Route #
New Provo and Orem BRT line

2.4.2 Length of project
10 miles

2.4.3 What is the expected use of the facility or program?
Zero fare use of the new BRT line in Provo and Orem. BRT will be a key connection for the entire transit network, connecting Frontrunner commuter rail to regionally important locations that are our key trip generators.

2.4.4 What services are provided in the operating of this project?
Significantly improved mobility and connectivity with the UTA Frontrunner and transit system.

2.4.5 Describe any equipment to be purchased (buses, ITS, etc.).
25 new buses and various signal upgrades

2.4.6 Describe how project is consistent with local or agency plans.
BRT is in the MAG RTP, UTA plans and local city plans.

2.4.7 Describe how project incorporates ITS needs.
The project improves signal coordination and add traffic signal priority if the bus is running late then the green time in the signal cycle is extended.

2.4.8 If phased or segmented, describe how the phase has logical termini and what will future phases consist of.
The corridor will start at the UVU / Orem Frontrunner station and will connect BYU, UVU, University Mall, downtown Provo, Provo's Frontrunner station, Provo Towne Center mall and ending at Provo's East Bay area.
2.4.9 Is project being coordinated with or constructed with a larger project?
Yes the Provo Orem TRIP project

2.4.10 Describe how project will alleviate congestion on this or other facilities.
The BRT is anticipated to carry over 8,000 riders a day and reduce traffic while improving regional connectivity that could positively impact many corridors including I-15. With zero fare it is anticipated that daily ridership will grow by 60% to be 12,800.

2.4.11 Describe any traffic improvements. (i.e lanes, signal coordination, ITS, turn lanes, bus pullouts, etc.)
Additional lanes of traffic are being added and stations built that will not conflict with traffic in the primary corridors. Also additional turn lanes are being incorporated at locations and intersections and signal elements are being upgraded and having traffic signal priority added.

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.)
Many places are being improved with increased safety features. The Provo River trail is being improved under the University Parway bridge, the college connector trail is being improved and pedestrian access to transit facilities is being improved. Pedestrian traffic to BYU is being channeled at 700 North in Provo to signaled intersections allowing for fewer jay-walking conflicts with vehicles.

2.4.13 How are complete streets addressed with this project? (plan for pedestrians, bikes, transit, trails, ITS)
Pedestrian facilities are being improved and rebuilt, and connectivity to transit is being emphasized.

2.4.14 What right-of-way is already secured?
Almost the entire needed ROW is secured.

2.4.15 What additional right-of-way is needed?
Small remaining pieces are being acquired by the project contractor.

2.4.16 Describe utility work to be performed and indicate who will do the work.
The project is being built by a contractor hired by UTA and UDOT

2.4.17 What type of environmental work will most likely be needed?
Environmental Impact Statement

2.5 Facility Design
## Current Conditions

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<tr>
<th>Category</th>
<th>Current Conditions</th>
<th>Design Year Click here to enter</th>
<th>Design Year w/o Improvements</th>
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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?
BRT will provide another mode to move people through some of the most congested corridors in Provo and Orem and connect them to the Frontrunner commuter rail line.

b) Reduces congestion by reducing the number of vehicles.
It is expected that BRT with zero fare will carry 12,800 riders a day and this will lessen the amount of vehicles driven and trips taken.

c) Reduces the need for additional highway lanes for peak hour capacity.
Higher ridership will translate into fewer vehicles on the road which will make the lanes function at a better capacity.

d) Increases the efficiency of transportation system through traffic management measures.
It increases the efficiency of the transportation system by increasing the modes available to travel with.

e) Adds turning movements to relieve a congested intersection.
Turning movements are being enhanced on University Parkway and modified on University Avenue.

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

a) Benefits multiple transportation systems (transit and highway, pedestrian and transit). This project will directly benefit all modes as a transit project that relieves congestion and encouraged pedestrian and bicycle connectivity. Zero Fare increases the BRT ridership productivity by 60%.

b) Promotes alternative transportation solution to SOV use.
This is a transit project that promotes all modes and reduces dependency on the single occupant vehicle.
c) Creates or improves linkages between transportation modes.
   BRT will be a primary linkage between all transportation modes. It will connect at the
   Frontrunner stations in both Provo and Orem. The college connector trail is integrated into the
   system as is the bus network.

   d) Reduces physical, psychological, or economic barriers to carpool, bike, walk, or transit use.
   BRT creates a low cost to zero fare option to allow for greater mobility for all economic groups
   and creates opportunities for all to use all modes including bike and walk connections.

   e) Provides incentives to carpool, bike, walk, or transit use.
   BRT route is situated to promote and provide incentives for riders to carpool, bike, or walk to
   ride transit.

3.3 Environmental Quality (15 points)

   Explain if the project...

   a) Provides cost effective emission reductions (air quality score).
      Zero fare attracts an estimated 12,800 daily riders of transit who would not be using their cars,
      and BRT vehicles are powered by a hybrid-electric engine with very low emissions.

   b) Minimizes environmental impacts or reduces existing impacts (e.g. air/water/noise pollution).
      It reduces single occupant car use and is anticipated to reduce traffic congestion and encourage
      multi-modal use. The vehicle is a hybrid diesel engine anticipated to have low emissions.

   c) Enhances the natural, cultural, or historic environment.
      It enhances the walkability and access to discourage automobile use. It's design is reflective of
      the community and was a collaborative effort with the surrounding community in its
      development.

   d) Mitigates invasive impacts to existing neighborhoods/commercial areas (minimal relocations).
      The project sought to minimize the direct impact to adjacent properties. It is hoped that the
      project will enhance some areas by increasing the value by increasing multi-modal access. Some
      commercial centers are already responding to the investment being made by this project. (the
      Mix development)

3.4 Safety (20 points)

   Explain if the project...

   a) Corrects/improves a verified or potential safety or accident problem.
      The expansion of general purpose lanes at the top of the University Parkway diagonal at 800
      East enhances the driver expectations coming down the hill and additional turn pockets allow
      for better through flows of traffic on the Parkway. Having stations in the median with bus lanes
      removes the side friction to traffic of a bus accelerating or decelerating at a station.
      Furthermore, A signal in front of University Mall made exiting the mall safer and created a safe
      way for pedestrians to cross.
b) Improves information/communications for traffic operations and emergency responders. The ITS elements will provide more cameras on the line and improvements made at traffic signals will provide operational enhancements and some emergency response efficiencies.

c) Reduces severity of crashes. The median of University parkway and University Avenue are being modified for safety, also 700 North is limiting pedestrian movements to safe crossing zones to increase pedestrian safety.

d) Enhances safe movement of pedestrian, bicycle traffic. Trails are being rebuilt to correct some safety issues and enhancements to provide better access to BRT.

e) Provides an intermodal safety improvement (e.g. separation of vehicles-trains, vehicles-pedestrian). The pedestrian facility or trail along University Parkway was elevated and protected from traffic.

3.5 Other Considerations (15 points)

Explain if the project...

a) Effectively distributes funding throughout the MPO area. The area funded is primarily the Provo and Orem area. However being a regional system in the core area all county users will benefit. The transit district is county wide and all will be able to use it.

b) Phases project in a manner that the MPO can use limited funds efficiently. 3 years of funding at $600,000 a year as part of a $1m annual contribution from both BYU and UVU. This demonstrated a community commitment and partnership that uses these funds efficiently.

c) Additional funding above required match is pledged toward project (including any soft match). Local dollars from BYU and UVU will add $1m annually as a local match which is above the required $121,860 match. For the three funded years the money given from BYU and UVU will total $6m.

d) Project sponsor ranking of project.
   1

e) Project is numbered project within the current RTP. Project is a first phase transit project in the RTP, on the transit map project T7.
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): 24,000 miles per day
   Average distance of trips reduced: 5 miles
   Emission reduction per average weekday: .435 kg PM2.5, 5.928 kg Voc, 6.792 kg NOx

   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.
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.

While the direct impact to air quality emissions is shown in the previous information, there is a subsequent effect of providing this type of connective and frequent transit operation and providing it at a zero fare. It is anticipated that overall transit ridership will jump as riders find new connections on Frontrunner and in the bus network, it is anticipated that more people will choose to ride a bike or walk to their chosen destination.

It is also anticipated that taking 24,000 daily VMT off the road will improve over all congestion allowing for better flow of traffic and less idleing time.

The benefits of providing this incentive to ride transit will be far reaching both in terms of immediate benefits but also in terms of allowing more people to feel comfortable using transit as a part of their routine travel habits.
5.0 | Project Cost Estimate
To develop 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 NA
- b) Environmental Work NA
- c) Construction NA
- d) UDOT Review (project cost <$500k = $5k, >500K = $10k) NA
- e) Construction Engineering NA
- f) Subtotal (in today's dollars) NA
- g) Inflated Cost Factor (inflate to 2022) NA
- h) Total 2022 Cost $7.8m
- i) Non-MPO Funds Available to Project $6m
- j) MPO Funding Request (includes 6.77% local match) $1,921,860.00

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 March 8, 2018 at 6pm.

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

Bob Allen
801/229-3813
rallen@mountainland.org

Shawn Eliot, AICP
801/229-3841
Zero Fare BRT Facts

Eliminate 24,000 daily miles of VMT

Ridership Gain
4,800 new riders

Reduce Emissions
.435 kg of PM 2.5
5.928 kg of CO
6.792 kg of NOx