RFTA Planning Department Monthly Update

June 10th, 2021

Regional Bike Share/First and Last Mile Mobility (FLMM) Plan

Background of Study

RFTA has contracted with Toole Design to conduct the regional Bike Share/First and List Mile Study. Toole was selected unanimously by the proposal evaluation committee, consisting of staff of RFTA's member jurisdictions.

The purpose of this study is to develop a regional bike share implementation and expansion plan for the State Highway 82 corridor from Glenwood Springs to Aspen, the Brush Creek corridor to Town of Snowmass Village, and the I-70 corridor from Glenwood Springs to New Castle, recognizing that each community will have unique bike sharing goals and needs; levels of investment; levels of current implementation; and other unique policies or preferences.

The plan is intended to develop estimates for each community's operating and capital costs and identify shared regional costs. Recognizing that resources are limited, cost sharing agreements and a regional cost allocation plan will need to be developed by and among RFTA and the participating communities.

RFTA is committed to implementing this plan in partnership with WE-cycle, the region's sole and established bike share provider in Aspen, Basalt, El Jebel and Snowmass Village. WE-cycle will be a vested stakeholder in the study's process and outcome, as the Regional Bike Share Plan will become its future roadmap. RFTA has been providing financial support for WE-cycle since its inception, and the 2018 Destination 2040 campaign indicated that WE-cycle would operate the expanded bike share services.

In anticipation that discussions about other FLMM opportunities may arise, and that and other viable FLMM strategies could be considered, the RFP was structured as a base bike share study, with the option to add on a more conceptual study of other first-and-last mile strategies. During the RFP process, it became clear that it would be awkward to limit discussions to bike share and then restart the process later with discussions about other alternatives. As a result, RFTA awarded Toole Design the contract for both.

Please see the attached PowerPoint for a comprehensive project update.

Methane Capture Working Group

With a renewed focus on climate and sustainability under the Biden Administration, methane capture is gaining more attention. Most scientists agree, "Methane is a potent greenhouse gas—about 28 times more powerful than carbon dioxide at warming the Earth, on a 100-year timescale, and more than 80 times more powerful over 20 years."

In 2016, the Colorado Energy Office produced a report that points to the largest sources of "fugitive coalbed methane" across the State, resources that could be captured and reused as renewable energy. This report was part of the data gathering process for Aspen Skiing Company's successful methane capture project at the Elk Creek Mine in Somerset.

More recently, the Community Office for Resource Efficiency (CORE) has renewed discussion about fugitive methane at the closed Dutch Creek Mines, in Coal Basin near Redstone. The primary questions are how much methane is being vented, and the cost/benefit analysis of harnessing this resource. A working group has been established that includes representation from CORE, Pitkin County, Wilderness Workshop, RFTA, Aspen Skiing Company and Chris Caskey with Delta Brick & Climate. This group will continue to discuss project details. RFTA is a secondary stakeholder, and the organization would simply be an end-user of methane capture.

Battery Electric Bus (BEB) Leadership Group

The purpose of the Battery Electric Bus (BEB) Leadership Group is to give RFTA and City of Aspen staff across several departments an opportunity to discuss the pros/cons of the BEB Pilot Project that has been operating for 18+ months. The group will use current qualitative and quantitative performance data and observations. Some of the project criteria include: staff

culture, public perception, operational needs, Holy Cross time of use charging tariff, smart charging software and greenhouse gas reduction goals. The information gathered during 2021 will better inform future decisions about fleet replacement and capital projects, as well as assist all stakeholders in furthering their local greenhouse gas (GHG) emission reduction goals.

The most recent topic of discussion is where the most strategic location might be to install RFTA's first on-route bus charger. This high-capacity charger will "top off" a bus in 5-7 minutes. The group was in general agreement that Rubey Park, or elsewhere in the City of Aspen, might serve as the most useful location. RFTA staff will be following up with City of Aspen staff to further this discussion.

Upper Valley Transit Enhancement Study

In February of this year, Pitkin County contracted with Meade and Hunt to identify specific physical and operational strategies on approximately 2.6 miles of SH82 between Airport and 8th Street in Aspen, to increase transit efficiency and provide enhanced safety and access for pedestrians and bicyclists. The recommendations will identify practical, cost-effective multimodal mobility solutions to prioritize transit, pedestrian and bicycle travel and support future near and long-term capital programming and redevelopment efforts.

The consultants have evaluated a number of improvements and have packed them into three options:

Alternative 1 – Maximized Multimodal Right-of-Way
Alternative 2 – Spot Multimodal Improvements
Alternative 3 – Traffic Technology Application

Improvements	Alt 1: Maximized Multimodal Right-of-Way	Alt 2: Spot Multimodal Improvements	Alternative 3 – Traffic Technology Application
Service Center Road			
New traffic signal	X	X	
At grade Pedestrian Crossing w/ traffic signal	X	X	
Speed limit reduction 55 mph to 45 mph	X	X	
Sage Way Sidewalks	X		
Airport			
Run BRT through airport on separate guideway with replacement stop at terminal	X		
Owl Creek Road			
Buttermilk Pedestrain Crossing	X		
Extend HOV lane Up Valley through Owl Creek Road intersection	X	X	
Channelize bus bypass lane at Harmony Road Signal (UV) and Owl Creek Signal (DV)	X		
Up Valley queue jump at Owl Creek from existing right-turn lane	X	X	
Aspen County Inn			
Trail Connection at Aspen Country Inn	X		
HAWK at Aspen Country Inn		X	
Maroon Creek Roundabout/Cemetery Lane			
Provide Down Valley bypass lane in outer lane through roundabout	X	X	
DV queue jump at Cemetery Lane to tie into 2nd approach lane at Maroon Creek Roundabout	X	X	
Allow through movements for HOV vehicles from outer UV approach lane to roundabout (2nd EB Lane)		X	
Other			
Enforcement of HOV Lane	X	X	X
Additional Bus Signal Priority			X
Modified Signal Phasing			X
Enhanced detection			X

Staff from the upper valley governments and RFTA reviewed the improvements and the packages. The main take-away was that both Alternative 1 and Alternative 2 showed multimodal improvements; however some improvements within those packages seemed to promote general purpose vehicular traffic at the possible expense of other modes, or had other problems. Staff suggested that the following improvements be reconsidered or removed:

- Run BRT through airport with separate guideway
- Extend HOV lane upvalley through Owl Creek Rd intersection
- Provide DV bypass lane in outer lane through roundabout

Integrated Mobility System Study – Phase 2

On May 28, Fehr and Peer's presented the draft Final Report of the Phase 2 IMS study to the upper valley local governments and the Aspen Institute. In partnership with the EOTC, and supported by RFTA and CDOT), Fehr & Peers evaluated the *Integrated Mobility System* (IMS) proposal outlined in the Community Forum Task Force on Transportation and Mobility's ***2017 Upper Valley Mobility Report*** to identify both near- and long-term solutions that would improve mobility and reduce air pollution emissions in the upper Roaring Fork Valley.

IMS Phase 1 Background

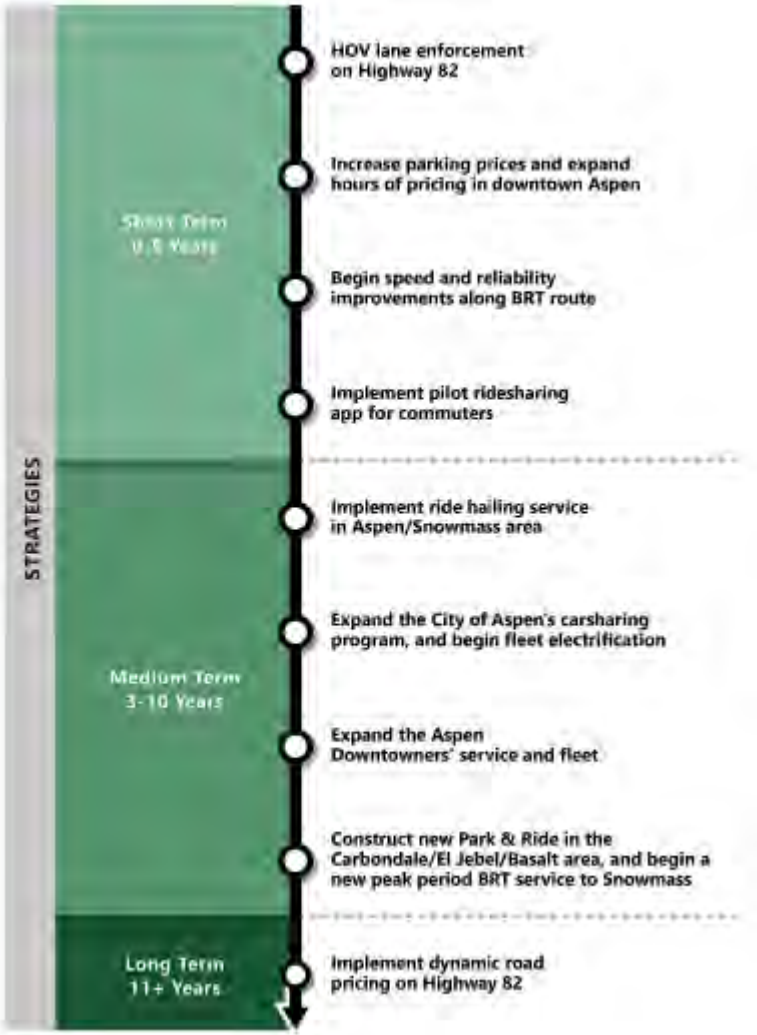
Phase 1 of this study was completed in 2020, and included the following analysis components:

Review and Refinement of Existing Strategies: Fehr & Peers refined the five principal strategies outlined in the IMS and added more specific definition about the strategies (type of ride-sharing service, nominal fees/tolls for congestion management strategies, etc.) so that they could be modeled for effectiveness at improving mobility and reducing traffic congestion.

Perform a High-Level Effectiveness Analysis: Modeled the effectiveness of the IMS to provide a general picture of the potential reduction in vehicle-miles traveled (VMT), greenhouse gas (GHG) emissions, and reduced single-occupant vehicle (SOV) travel, as shown below:

Ranking	Strategy	Long Term Effectiveness GHG emission reduction
1	***Congestion Reduction Measures***	17,600 metric tons/year
2	***Ride Sharing***	3,800 metric tons/year
3	***Phased BRT Enhancements***	800 metric tons/year
4	***HOV Lane Enforcement***	No VMT/GHG emission benefit as a stand-alone strategy.
5	***Ride Hailing***	No VMT/GHG emission benefit as a stand-alone strategy.

Identify an Implementation Framework: Fehr & Peers created a phased implementation framework for improving mobility and reducing the environmental impacts of transportation in the Aspen/Snowmass area, shown below. This approach recognizes that some strategies will take more time to implement than others due to political, technical, and financial constraints.



IMS Phase 2

Phase 2 of this study carried the results of Phase 1 forward to create a more detailed analyses, including:

1) More detailed GHG and travel analysis identifying which trips are most likely to be affected
2) Performance measures and evaluation framework for ongoing tracking and progress reporting,
3) Potential travel impacts from autonomous vehicles and COVID-19, and
4) Equity implications of the travel pricing options

Travel Markets

Fehr and Peers considered four different types of travelers in this study:

1. Commuters: People traveling to/from work
2. Local visitors: Residents of other parts of the region that are traveling to/from Aspen and Snowmass for non-work purposes

3. Non-local visitors: people visiting Aspen and Snowmass village, but who do not live anywhere in the analysis area between Parachute and Aspen
4. Residents: People who live in Aspen or Snowmass

Each group has very different trip characteristics, and they are likely to respond to and be impacted by the IMS strategies in different ways.

Daily Vehicle Trips - Average Peak	Snowmass Village (Across Brush Creek Road)	% of total Trips (Snowmass Village)	Aspen (Across Castle Creek Bridge)	% of total Trips (Aspen)
Residents - Commute Out	80	1%	590	3%
Residents - Personal	420	5%	1,660	8%
Workers - Commute In	2,380	29%	6,160	29%
Local Visitors	1,480	18%	2,460	12%
Non-Local Visitors	3,870	47%	10,070	48%
Total	**8,230**		**20,940**	

Based on estimated average daily vehicles trips, Fehr and Peers asserted that substantial reductions in VMT and GHG emissions into Aspen and Snowmass Village **will require a focus on non-local visitors and commuters**. However, when evaluating how to manage travel from these two groups, the implications to equity and the overall economic engine of the region must be taken into consideration.

Packaged Strategies

In Phase 2, they considered the synergies of the different IMS strategies identified in Phase 1 and identified five distinct packages that support the goal of VMT, congestion, and emissions reductions.

Package	Strategies
1	Cordon Toll on SH 82 Phased BRT Enhancements
2	Managed Lanes on SH 82 Phased BRT Enhancements HOV Lane Enforcement
3	Parking Pricing Phased BRT Enhancements HOV Lane Enforcement
4	Ride Sharing HOV Lane Enforcement
5	Ride Hailing

The packages were developed based, in part, on the Phase 1 finding that HOV lane enforcement did not have any direct VMT or GHG emissions benefits, but it strongly enhanced the other IMS strategies. Similarly, given that the Aspen/Snowmass Village area already has strong transit service, the BRT enhancements suggested in the IMS would have less of a stand-alone benefit than in most other communities, but they provide fundamental support to offset the increasing the cost of driving (through parking fees, tolls, or cordon charges) that are part of packages 1-3.

Each package includes an estimated impact on VMT for each travel market, and changed to GHG emissions:

Package	Strategies	Estimated GHG Reduction (metric tons)
1	Cordon Toll on SH 82 Phased BRT Enhancements	25,550
2	Managed Lanes on SH 82 Phased BRT Enhancements HOV Lane Enforcement	17,150
3	Parking Pricing Phased BRT Enhancements HOV Lane Enforcement	6,220
4	Ride Sharing HOV Lane Enforcement	620
5	Ride Hailing	-

Package 1 and 2 are the only strategies that dramatically shift VMT and GHG emissions in Aspen and Snowmass Village. Therefore, **one of these two packages is recommended by Fehr and Peers as the long-term strategy for managing vehicle travel in the Upper Roaring Fork Valley**.

Issues to Implementation

This report is focused on two different tolling scenarios, for packages 1 and 2:

1) Converting the existing High-Occupancy Vehicle (HOV) and bus-only lane to an express lane or High-Occupancy Toll (HOT) lane. Per state law, all HOT lanes require at least three persons per vehicle to qualify as a toll-free vehicle.
2) Converting all lanes to tolled lanes (creating a toll to enter both Aspen and Snowmass Village)

These options are not recommended by EOTC staff in the **2021 EOTC Near-Term Transit Improvement Program**. In addition to the challenge of convincing the public of benefits to pricing what is now free travel, there are potential legal, political, and financial challenges to implementing such changes, whether they be managed lanes or a cordon toll. State law would need to be amended, and the EIS may need to be re-evaluated or conducted anew, and CDOT and the EOTC may need to be reimbursed for investments in the Bus-Only lanes. Significant Federal, State and local resources have been invested in successful local, regional and BRT systems, which have been successful in maintaining AADT at 1993 levels. Reverting bus-only and bus/HOV lanes to more general purpose traffic will be a challenge. From an equity standpoint, it may put travelers in a position where they must either pay a toll or take transit—but with a loss of transit priority.

2021 EOTC Near Term Transit Improvement Program

On June 1, the upper valley government staff and RFTA met to make transportation recommendations for the July 29 EOTC meeting, in the form of the "EOTC 2021 Near Term Transit Improvement Program", which is a 3 tier prioritization of projects for the 2022 and 2023 EOTC work plan and budget. It is

anticipated to be adopted as Administrative Direction in October (no formal resolution). Many of these improvements came from the UVTE and IMS study efforts.

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2021 EOTC Near-Term Transit Improvement Program		
	Project Name	Comments
Tier 1	First Priority - Higher value* to dollar ratio and / or Important preliminary effort	
	Design of Maroon Creek Roundabout Down Valley Channelization and Down Valley Queue Jump at Cemetery Lane **	Move to design and permitting to further evaluate feasibility. Initial rollout anticipated as an experiment. Requires CDOT approved design and permitting. Potential benefit to all motorized roadway users including transit. Channelization likely to be seasonal due to snow removal issues. Move to concept plan in 2021.
	Aspen Country Inn Trail Improvements to Bike / Ped Underpass and Transit Stops **	Important bike / ped connection to transit for senior housing. Basic infrastructure connection. Move to concept plan in 2021.
	Design of Harmony / Owl Creek Transit Signal Bypass Lane and Buttermilk Bike / Ped Underpass **	First move to design to make eligible for funding. Superior bike / ped protection crossing Hwy 82 and increased transit speed and reliability. High construction cost. Move to concept plan in 2021.
	HOV Lane Enforcement Analysis	Necessary to determine best alternatives for HOV enforcement options (automated vs. personnel). Could require a phased implementation.
	Analysis of Up Valley and Down Valley BRT Direct Service to Snowmass	Analysis necessary to determine cost, frequency, and expected utilization. Ongoing service costs can be cumulatively high. Current BRT connecting service remains in place.
Tier 2	Second Priority - Lower value* to dollar ratio and / or Dependent on Tier 1 effort	
	Pilot Ridesharing app for Commuters	Effort dependent on HOV lane enforcement implementation for highest level of effectiveness. May be able to use results of RFTA's 2021 First Last Mile Mobility (FLMM) Study to guide this effort. Ongoing cost and staff time unknown.
	Analysis of Regional Ride Hailing and Car Sharing Service	Potentially lower relative benefits to transit ridership, GHG emissions, and VMT reductions. Analysis necessary to determine service scope, type and ensure service supports transit. May be able to use results of RFTA's 2021 First Last Mile Mobility (FLMM) Study to guide this effort.
	Additional Permanent Automated Vehicle Counters on Brush Creek Road, Owl Creek Road, Airport/AABC and Highway 82 in Pitkin County	Additional vehicle counters are necessary to monitor program success, VMT and greenhouse gas emissions over the long term.

	Analysis of Valley Wide Commuter Parking, EV Charging, and Ride Hailing / Sharing Pick Up / Drop Off Locations	Necessary to determine amount and location of needed parking, appropriate parking pricing, and incentives via EV charging placement to encourage transit ridership.
Tier 3	Third Priority - Hold status due to dependence on efforts outside EOTC purview, Significant cost, and / or Significant legal hurdles	
	Service Center Road Signalization and Hwy 82 Brush Creek P&R to Airport Speed Limit Reduction	Relatively expensive improvement. Gains in vehicular and bike / ped safety accessing transit. Hold due to ongoing design of new airport terminal and layout. Speed limit reduction to be reviewed by CDOT and possibly incorporated with signalization of intersection. Would require amending Access Control Plan with CDOT.
	Extension of HOV Lanes Up Valley from Airport and / or Down Valley of Maroon Creek Roundabout	Initial construction cost of exclusive bus lanes must be reimbursed to EOTC if any loss of exclusive bus lanes occurs. Source of reimbursement funds is unknown and amount of initial construction cost reimbursement could be high. Potential conflicts with ROD. Only to be pursued if 1) no loss to bus only lane can be achieved and 2) effective HOV lane enforcement is in place.
	Dynamic Road Pricing (Cordon Pricing or Managed / HOT Lane)	Significant legal hurdles as State law would need to be amended to allow for cordon pricing. Cordon pricing or managed lane would require significant permitting, operational infrastructure, and partnerships. Implementation, public relations and maintenance costs expected to be high for either cordon or managed lanes. Potential legal hurdles if bus only lanes are converted to HOT lanes. Amendment or new Hwy 82 EIS / ROD is necessary. Additional analysis is necessary. Could have significant positive impacts on GHG emissions and VMT if implementable.
	HAWK Beacon at Aspen Country Inn	Relatively significant implementation cost relative to number of users.
	Sage Way Sidewalk Extension	Hold pending implementation of Access Control Plan to be triggered by Airport redevelopment and/or large developments within the AABC.
Other Efforts Considered - Not to be Pursued at this Time		
	Signal Timing for Transit Speed and Reliability Improvement	Limited deployment in Pitkin County modeling showed very little effectiveness. Additional modeling for entire Hwy 82 corridor may demonstrate ability to substantively improve transit speed and reliability.
	Airport Terminal BRT Routing	Dependent on Airport terminal redevelopment. Very expensive improvement as down valley BRT line would need to be grade separated to and from the Airport in order to maintain current transit times. Gains in access at airport terminal only with possible detriment to greater BRT system. Significant transit operational issues to be overcome. Other options should be analyzed first.

CASTA Organizes Statewide Transit Earmark Proposal for FAST Act Reauthorization

Both the House Committee on Transportation and Infrastructure (T&I) and the House Committee on Appropriations have announced Congressional earmark processes for their respective bills. House Democrats and Republicans are expected to request earmarks.

FAST Act Reauthorization Earmarks

In the Reauthorization Bill, each Member of the Transportation and Infrastructure Committee can expect $15-20 million in earmarks, which means Members not on the Committee (including the Colorado Delegation) will likely receive less.

CASTA had worked with its 56+ member transit agencies to develop a proposal for a Statewide earmark. It is likely that CASTA's Statewide proposal is the best strategy, as the Colorado Delegation is unlikely to want to pick winners and losers among its constituents, and Representative Boebert has made it clear that she will not support earmarks: https://boebert.house.gov/media/press-releases/rep-boebert-fights-against-earmarks-corruption-and-government-waste.

Neither Senator Bennet or Hickenlooper has released a formal solicitation for FAST Act earmark requests. The statewide earmark will likely consist of the following:

Agency	Project Description	Request	Local Match
Transfort	CSU Foothills Transit Station	$2,294,840	$573,710
Vail Transit	2 BEBs, charging infrastructure	$1,650,026	$412,506
ECO Transit	Lake Creek Village Bus Stop Improvements and US 6 On-Route Charging Infrastructure	$1,351,145	$150,127
Grand Valley Transit	4 CNG Buses	$1,222,400	$305,600
Gunnison Valley RTA	2 CNG Buses	$1,500,000	$300,000
RFTA	GMF Phase 6 (Operations Center)	$7,400,000	$1,900,000
TOTAL		**$15,418,411**	**$3,641,943**

If RFTA receives this earmark, funding for Phases 1-7 will be complete, and construction can be completed within 3-4 years.

FY2022 Appropriations Earmarks

Earmarks are available under the last year of the current Transportation bill, though the FY2022 Appropriations process, and under the proposed 5-year Transportation Reauthorization.

Earmarks under FY2022 Appropriations are likely to be limited, like $1 million or less. The senators will be reviewing the submissions and selecting earmarks to pass along to the Senate Committee of Transportation, Housing, & Urban Development (THUD) by June 23rd.

RFTA has applied for $2 million in funding through the Senate side, to fund hydrogen production and storage facilities for hydrogen powered buses. If this project is funded, RFTA will need to contribute about $2 million.

Since neither Senator has released a formal solicitation under the FAST Act, CASTA will submit its Statewide earmark proposal under Appropriations, because it might be the only option, and the Appropriations submission process will help CASTA get its foot in the door for FAST Act earmarking. At the advice of RFTA's lobbyist, RFTA will alert Senators Bennet and Hickenlooper that the priority earmark proposal is CASTA's statewide request.