LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY

STAFF REPORT

SUBJECT: Wheels Forward: Service Design Guidelines

FROM: Christy Wegener, Director of Planning and Communications

DATE: October 26, 2015

Action Requested
Approve and forward to the Board for approval.

Background
Wheels Forward is a comprehensive operational analysis (COA) of the Wheels bus system, a project that was initiated in March 2015. The goal of Wheels Forward is to improve the Wheels bus system in the Tri-Valley so that it that better serves current and future travel patterns, more closely links transit planning with land use planning; and improves the efficiency, effectiveness, and overall operation of the bus system. This goal may be achieved through a combination of changes to route alignments, schedules, and the overall design of the transit network, as indicated by planning analysis, public feedback, stakeholder and Board guidance.

The purpose of the service design guidelines is to provide an overall policy framework for the future planning decisions on Wheels bus service. Service design guidelines aim to resolve the tension between competing transit goals and will help inform future Wheels Forward service planning recommendations.

Discussion
Since the COA has kicked off, several activities have taken place to gather input service design guidelines for the Wheels system.

Board Retreat: A Board retreat was held on July 15th where the vision for Wheels was discussed along with a dialog about the service tradeoffs. During the retreat, the Board discussed service tradeoffs and provided the following input:

- Coverage vs Productivity: Lean more heavily towards productivity (more service, fewer areas that would result in higher ridership).
- Frequency vs Span of Service: Focus on higher frequencies during core/commute hours, with longer headways in off-peak as appropriate.
- Weekday vs Weekend: Prefer seven day service, given existing conditions data.
- One-Seat vs Transfers: General understanding of desire to simplify trips, but strong feeling that an improvement in reliability and the wait experience (real-time info, security, etc) can help mitigate concerns with transfers.

- Route Directness vs Access: Less specialization. Prefer passengers walking to the main road rather than having buses meet them at the front door. This results in faster service.
- More Stops vs Fewer Stops: Feeling that less stops on the Rapid is important to speed up the bus. However, reducing stops on other routes needs to be well thought out when paired with the emphasis on more direct routes. Don't want a net loss of passengers due to length of walk to stop--stops should be situational based on land use and ridership.
- Local Market vs Regional Service: Strong desire to focus on the local market, with several members noting that regional connections should be served, though perhaps through funding or operating agreements with partner agencies as appropriate rather than assuming LAVTA must serve them directly.
- Existing Service Area vs Expansion Projects: Focus on improving existing service area, with some acknowledgement that the service area may change slightly to take advantage of new opportunities, e.g. land use developments.

Public Meetings: Three public workshops were held at the end of July where those in attendance at the meeting provided feedback on service tradeoffs. Over 100 people attended the three workshops. At the meetings, the following service comments were noted:

- Service improvements: Improve connections (frequency) to BART
- Route structure: Make routes less meandering and more efficient
- Other improvements: Operate the Rapid on weekends, improve weekend evening services, offer better service to the Outlets, add service to Stoneridge Creek retirement community (in Pleasanton), and service to Mountain House.

During the community meetings, the public was asked to place stickers on a large board indicating their preferences for service tradeoffs. The following tradeoffs were noted:

- Frequency vs. Coverage: Meeting attendees overwhelmingly marked frequency over coverage (70% frequency, 13% neutral, 17% coverage)
- Frequency vs. Span: Meeting attendees marked more service during rush hour over longer service hours (42% rush hour service, 29% neutral, 29% longer hours)
- Days of Service: Meeting attendees preferred service seven days a week over weekday-only service (45% seven days/week, 28% neutral, 24% weekdays only)
- Local or Regional: Meeting attendees preferred concentrating resources on local services (58% local, 12% neutral, 30% regional)
- Directness: Meeting attendees favored more direct routes with shorter rides and longer walks to get to the bus stop (62% direct, 12% neutral, 16% longer bus rides with less walking)
- Transfers: Meeting attendees were split on the number of transfers (43% favored more routes with fewer transfers, 43% favored fewer routes with more transfers, and 14% were neutral)
- Stop Spacing: The public was split on stop spacing (46% favored more stops with a shorter walk to the stop, 50% favored fewer stops with a longer walk to the stop, 4% were neutral)
- Service Expansion: Meeting attendees favored expanding service into new areas (62% favored expansion, 35% favored improving existing service, 3% were neutral)

Rider Survey: A survey was administered on Wheels buses during the months of June and July. A total of 821 surveys were collected on weekdays and 291 were collected on weekends. The survey included questions about what improvements current riders valued the most. Current riders expressed the following preferences:

- More frequent service (29%)
- Buses run earlier/later in the day (14%)
- Lower fares (9%)
- Improve on-time performance (7%)
- Faster service

Online Tradeoffs Survey: An online survey was posted on WheelsFoward.com and 226 people responded to the survey. Results indicated that:

- Respondents strongly support providing more frequent service for a shorter span over less frequent service for a longer span
- Respondents strongly support providing more weekday service at the expense of weekend service
- Respondents strongly support providing faster service with longer walks to stops as opposed to slower service with shorter walks to stops
- Respondents support improving existing service over expanding to new areas

Stakeholder Meeting: A Stakeholder Advisory Group was formed and had their first meeting in July. At their first meeting, the stakeholders discussed their understanding of the Wheels bus system and its functionality. The group discussed their preferences for more direct, frequent Tri-Valley bus service that is easier to navigate than the existing Wheels system.

General Public Outreach: In addition to all of the above, general outreach has been completed to gather information on service preferences and requests. An online comment form was available on WheelsForward.com and over 50 comments were submitted. Many commenters requested better (more direct, more frequent) service to existing destinations, including BART, the Outlets and Las Positas College. Improving connectivity with BART received several comments, as did requests to run the Rapid 7-days a week. There were also several emails received about adding service to Mountain House.

Analysis

During the public outreach and open comment period, the planning team noted there were conflicting comments received for some of the service trade-offs (weekday versus weekend service, expanding service to new areas versus improving existing service). The scenarios that have been developed aim to provide options to address even conflicting service preferences.

The planning team has developed a series of proposed service design guidelines that include elements that address a fundamental decision point in transit planning: how much service to allocate to areas based on ridership demand and productivity goals (i.e., maximizing the number of passengers per hour of service), and how much service to allocate to areas based on coverage goals (i.e., providing widespread access through a geographically-dispersed system). As stated above, service design guidelines attempt to resolve the tension between competing goals in transit: coverage vs. productivity; equity vs. cost-effectiveness; distance to stops vs. travel time; direct access vs. direct routes.

Wheels currently has a highly coverage-oriented system that in general does not respond to higher levels of transit demand with the type of service that will support higher productivity. The proposed Service Design Guidelines include elements that more explicitly link transit service levels to the level of transit demand in a specific corridor or area and open the door to productivity-oriented services.

Service Design Guidelines
Several principles of transit service design are proposed for use in scenario development and service planning. These principles reflect well established best practices in transit service planning as well as feedback from existing Wheels riders and potential riders, as well as the Board and community stakeholders. The proposed principles are:

- Headways/Frequency: There is a clear role for a frequent BART feeder network within the Wheels Bus system. An effort should be made to maximize frequency on major arterials that act as extensions to the BART system (Dublin Blvd., Santa Rita Road, Stanley Blvd.) For frequent primary routes, provision of service that operates every 15 minutes is an important psychological breakpoint. Fifteen minute or better service meets every BART train. Also, at headways of 15 minutes or better, many riders will not need to refer to the schedule, because wait time is minimal.

- Direct Alignments: Routes should be designed to operate as directly as possible to maximize average speed for the bus and minimize travel time for passengers while maintaining access to service. Even if a trip requires transferring between two routes, it is likely to be faster than a trip using a circuitous route. Less direct alignments may be appropriate for coverage-based services; however, route alignments should still be easily understood, and an effort should be made to provide the most direct alignments possible while meeting coverage goals. To the extent possible, remove the loops in the service area and convert those areas to bi-directional lines. Loops require longer travel time to get from point A to point B and are often a source of confusion for riders.

- Route Alignment: Routes should ideally operate along the same alignment in both directions to make it easy for riders to know how to return to their trip origin location. Exceptions can be made in cases where such operation is not possible due to one-way streets, turn restrictions, or near the end of a route where the bus must turn around. In those cases, routes should be designed so that the opposite directions parallel each other as closely as possible.

- Spacing Between Routes. To maximize use of operating resources and avoid duplication of services, routes should in most cases be spaced to duplication of service in the same corridor.

- Route Deviations: Routes should not deviate from the most direct alignment unless there is a compelling reason.
- Transfers. If routes are to be made relatively direct and frequent, it may not always be necessary to provide “one-seat” rides between riders’ origins and destinations.

Connections should be designed to be as seamless as possible, with relatively frequent service and timed connections at key hubs (BART, Transit Center)

- Route Consistency: Routes should follow the same pattern when in operation. Route variants that only operate during parts of the day or on weekends should be avoided if possible to improve ease of understanding.

- Stop Spacing: The distance between stops is a key element in balancing transit access and service efficiency. More closely spaced stops provide customers with more convenient access as they are likely to experience a shorter walk to the nearest bus stop. However, transit stops are also the major reason that transit service is slower than automobile trips, since each additional stop with activity requires the bus to decelerate, come to a complete stop, load and unload riders, and then accelerate and re-merge into traffic. Where possible, stops should be located one quarter to one third of a mile apart.

Next Steps

Three service scenarios have been developed and will be presented at a series of community meetings on October 27, 28 and 29. Each of the scenarios incorporates a degree of the service design guidelines presented above, but all include high-frequency service to BART. The final service scenario presented for approval in 2016 will incorporate both Board and public comment, as well as the approved service design guidelines.

Recommendation

Staff recommends the P&S Committee forward these service design guidelines to the Board for approval.