

Washtenaw Livingston Rail Line (Wally) Technical Review

Final Report and Revised Draft Business Plan

Executive Summary

R.L. Banks & Associates, Inc., (RLBA) was selected to perform a technical review of the February 2008 Wally Draft Business Plan and other information related to initiation of commuter rail service connecting Howell and Ann Arbor. See map on following page. This paper revises the February 2008 Draft Business Plan.

Review of Work Completed

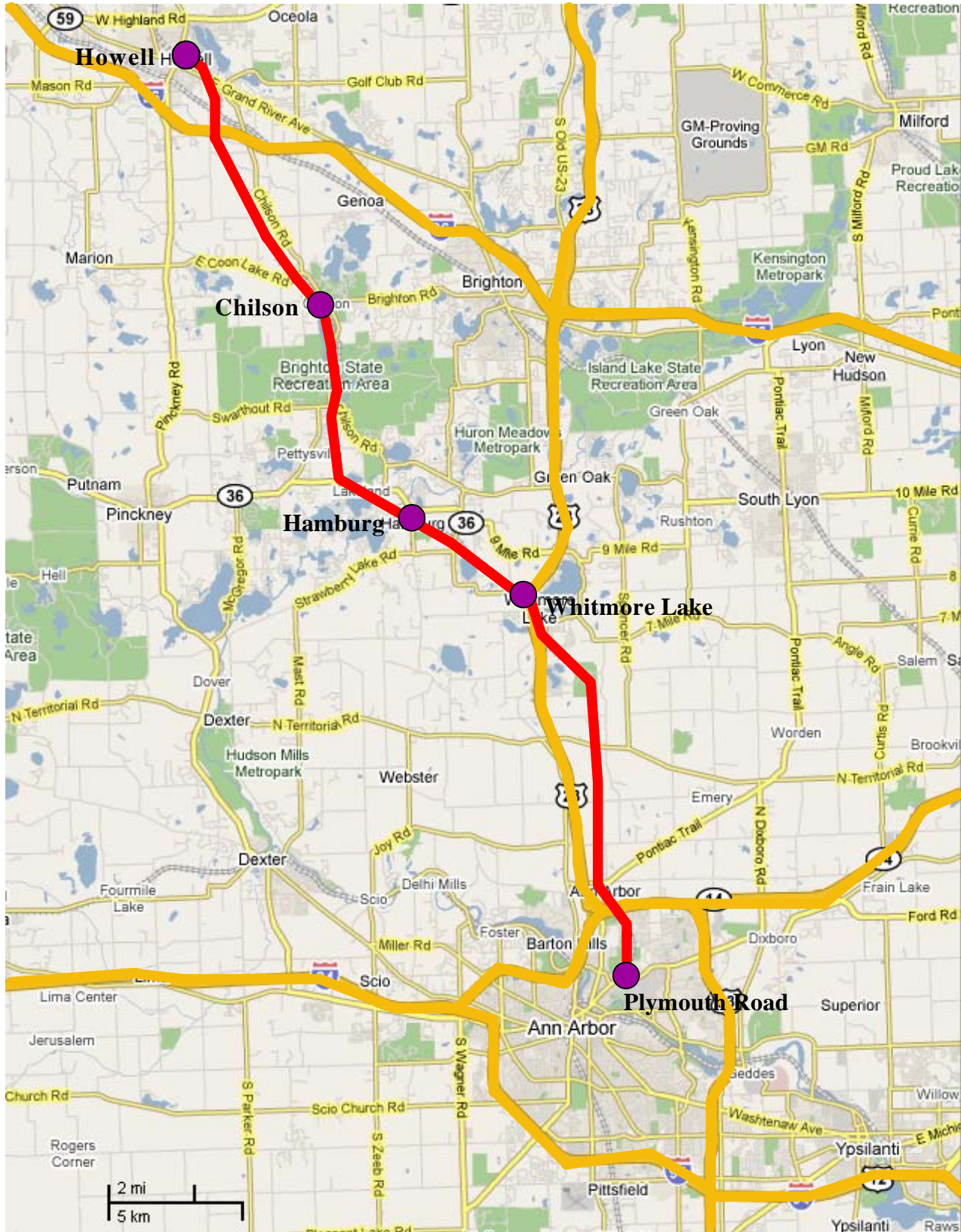
Nine Technical Memoranda. Responding to the Wally Coalition's Scope of Services, RLBA prepared nine technical memoranda and submitted these on June 10 and 15, 2008, to the Coalition for review and comment. The nine technical memoranda cover the following subjects:

- Subtask 2.1 Railroad Operating Plan and Operating Budget
- Subtask 2.2 Station Development
- Subtask 2.3 Track, Signal and Grade Crossing
- Subtask 2.4 Ridership Estimates
- Subtasks 2.5 Finance and Administration
- Subtask 2.6 Customer Service and Bus Interface
- Subtask 2.7 Development Opportunities and Risks
- Subtask 2.8 Ann Arbor Railroad Extension
- Task 3 Funding

Findings. RLBA findings, presented in the technical memoranda, include the following:

- In order to attract riders, track speed must be improved to 60 mph. Otherwise, passenger train transit time will not be competitive with the automobile.
- A reasonable ridership estimate is 1,300 riders one-way, or 2,600 trips per day. This represents a reduction from the Wally Coalition's estimate.
- Many details need to be worked out between the Wally Coalition and GLC, and with the Ann Arbor Railroad with regard to daily storage of empty passenger railcars.
- The Coalition should resolve compliance with the Americans with Disabilities Act with the U.S. Department of Transportation.
- It is important to execute an agreement with CSX to assure passenger train priority at the Ann Pere crossing.
- A centralized traffic control (CTC) signal system (or equal) should govern the Howell-Ann Arbor rail corridor prior to start of commuter operations.

Proposed Washtenaw-Livingston Commuter Rail Service



-  = Proposed station
-  = Great Lakes Central Railroad

- There are a number of station planning issues which must be decided before design can commence. These include establishment of specific plans for adequate and close-by (short walking distance) parking facilities at each outlying station. Establishment of plans includes agreements with developers, and at one station, a church. Parking, and other station requirements, could require acquisition of property. The importance of adequate parking -- enough to initiate service plus some extra in anticipation of ridership growth -- cannot be overestimated. Another important station planning issue is platform length. Regardless of resolution of ADA policy with U.S. Department of Transportation, RLBA strongly recommends that station platforms be long enough for simultaneous boarding and de-boarding of all passenger cars on the train. Roadway access to each station, including access for parking, for buses, and for “kiss and ride”, must be decided. This also may require acquisition of real estate.
- An adequate overnight layover facility is required, in which RLBA recommends inclusion of 480 volt standby power, locomotive drip pans, a crew and maintenance building, roadway vehicle access, lighting, fencing and security. This may require acquisition of real estate.
- Rail defect testing, for hidden defects, should be performed before passenger service.
- Connecting bus service must be arranged. This will be vitally important at the Plymouth Road station, since walking from/to that station does not appear to be a useful option. It also may be important at other stations, depending upon need.
- Funding commitments are required prior to constructing right of way improvements and stations, and for operating expenses prior to initiation of service. Capital costs required to initiate service total \$32.4 million. Annual operating deficits over ten years range from a small surplus in one year to \$1 million in the tenth year.

Final Report and Draft Business Plan. Based on comments received on these technical memoranda, RLBA made appropriate revisions and then RLBA prepared this Final Report and Draft Business Plan.

Additional Steps to Initiate Service

The most important additional steps before initiation of passenger service are those shown above under “Findings”.

An estimated 16 months may be required to complete all steps necessary to initiate service. This time period is highly conjectural in that it depends upon priority given to implementation actions, availability of funding, and decisions by others.

Ten-Year Financial Sustainability

The February 2008 Wally Business Plan and the draft business plan embodied in this report both project annual operating shortfalls. This is not unusual. The fact is that, like the U.S. highway systems, virtually every public transportation service worldwide requires public investment to sustain it. (Michigan, for example, spends hundreds of millions of dollars more to support its highway system than is raised through state and its share of federal gasoline taxes.) It will be necessary to secure funding for both annual operations and for the capital improvements (track improvements to attain 60 mph service, etc.).

Management Structure

(This and subsequent section headings are provided to mirror similar headings in the February 2008 Draft Business Plan and assure that all business plan components have been considered.)

An organization structure is suggested, and specific functions appropriate to supervision of a commuter rail service are discussed.

Operation and Maintenance Plan

An operating and maintenance plan includes sample train schedules, a plan for maintenance of stations, and funding requirements.

Ridership Forecasting and Revenue

As stated above, the RLBA estimate of ridership is somewhat less than that of the February 2008 Wally Business Plan; however, the projected number of riders is deemed sufficient to initiate commuter rail service. Revenue from fares will not cover operating expenses, as mentioned above, but this is not unusual or unexpected.

Financing Plan

The “Ten-Year Financial Stability” section mentioned above constitutes a financial plan. It will be necessary to secure funding.

Marketing Plan

Vigorous marketing will be important in assuring that all prospective users are aware of the new service. A customer service plan will provide for the assistance of riders.

Implementation Plan

The “Additional Steps to Initiate Service” described above are the implementation plan.

Overall Conclusions

Commuter rail service connecting Howell and Ann Arbor is feasible.

Additional actions are required prior to initiation of service. An organization to execute these actions should be established. The additional actions are evaluated and a “critical path” schedule of approximately 16 months has been estimated. This figure is subject to change depending upon priorities, ease/difficulty in obtaining funding, and decisions by other parties.

Compliance with a U.S. Department of Transportation policy related to the Americans with Disabilities Act should be resolved. Funding must be secured. Station planning, including parking, must be refined prior to initiation of design. A number of agreements must be negotiated.

Certain of the steps to initiate new commuter rail service are deemed by RLBA to be crucial to success. These are automobile-competitive travel times, an adequate number of short-walking-distance parking spaces at stations, convenient and timely shuttle bus service, and station platforms extending the length of commuter trains.

Washtenaw Livingston Rail Line (Wally) Technical Review

Final Report and Revised Draft Business Plan

Requirement

The contractor shall synthesize the technical memoranda into a complete report consisting of three main elements; 1) review of work completed to date, 2) additional steps to initiate service including a project timeline with a critical path, and 3) a statement of financial sustainability of the system projected for the first ten years of operations. The contractor will make one presentation of their final draft findings to the Wally Leadership and Technical Committee(s). The contractor will revise the draft report responding to comments and concerns identified by the Wally Leadership and the Technical Committee. Pending acceptance of the report, the Contractor will prepare a presentation of their findings and recommendations for delivery at a minimum of four public meetings, two in each County. It is anticipated the presentations will be offered at the two county board meetings with an additional meeting at one key city in each county.

Deliverables

- 1. 25 Copies of Draft and final reports, as well as a word file of the same*
- 2. 25 Copies of the Final Draft Business plan for operation of Wally service including Executive summary and 10 year budget. An electronic version of the same in Microsoft Word and/or Excel will also be provided*
- 3. Slideshow Presentation that outlines the review of work completed, additional steps to initiate service including the project timeline and critical steps for implementation and the financial plan that will be necessary to sustain the service which will be delivered at four public meetings*
- 4. Microsoft PowerPoint electronic file of slide presentation*

Introduction and Purpose

Background

A coalition (the Wally Coalition) of government officials and business leaders in Washtenaw and Livingston Counties is working to institute a 27-mile long commuter rail service between Howell and Ann Arbor. The Great Lakes Central Railroad (GLC) maintains operating rights over the State of Michigan-owned rail line connecting these communities. The Wally Coalition already has completed a variety of efforts aimed at implementing the service.

This Washtenaw Livingston Rail Line (Wally) technical review is intended to determine what is needed to initiate and sustain commuter rail service between Howell and Ann Arbor.

Some Perspectives

From the point of view of a transportation consultant doing work across the United States, there are a number of very positive aspects of the commuter rail initiative in Washtenaw and Livingston Counties. Foremost is the enthusiasm among a sizeable number of county and city officials and others, in favor of implementing new commuter rail service linking the City of Howell (Livingston County) with Ann Arbor (Washtenaw County). Another very interesting and helpful aspect is the fact that the railroad operating over the prospective commuter rail corridor likewise is enthusiastic to participate. Indeed, that railroad – the Great Lakes Central (GLC) – has offered to supply locomotives and bi-level passenger coaches, and to crew the trains and operate the service.

There is, however, another side which has been articulated by some members of the coalition, and that is a concern that enthusiasm may have overrun pragmatism. Some have articulated their concerns regarding the financials – how the service would be funded – and regarding ridership, and adequacy of parking at the stations. Some have voiced the concern that without a hard look at the business plan, the service -- if initiated -- could collapse for lack of funding.

Another interesting characteristic of this study is that there have been a number of related studies regarding passenger rail or improved transportation in general, in Southeast Michigan, or otherwise including the Washtenaw-Livingston study area. Also of interest, and pointed out in these other studies, is a relative lack of public transportation in a geographic area of population growth. Livingston County is cited as the fastest growing county in Michigan. Washtenaw County is growing. Many have cited congestion problems on Highway U.S. 23.

Initial Meetings and On-Site Inspections

RLBA attended meetings with City of Ann Arbor and Washtenaw County on May 1. RLBA also conferred with Michigan Department of Transportation and GLC on May 1. On May 2, RLBA attended meetings with Livingston County and City of Howell, and also inspected prospective station sites. With GLC, RLBA hylaired the rail line between Howell and Ann Arbor. RLBA participated in the Technical Steering Committee kickoff meeting on May 2.

Initial Service Ends at Plymouth Road. This study focuses on the Wally Plan to initiate service between Howell and Plymouth Road in Ann Arbor. Extending service into downtown Ann Arbor, via the Ann Arbor Railroad, is considered as a future option.

Purpose

Key products of this study are a management and business plan with a defined critical path, capital and operating program recommendations, and an implementation strategy for instituting viable service.

The Nine Technical Memoranda

In accordance with the Wally Coalition Scope of Services, technical memoranda were submitted on the following subjects:

- Subtask 2.1 Railroad Operating Plan and Operating Budget
- Subtask 2.2 Station Development
- Subtask 2.3 Track, Signal and Grade Crossing
- Subtask 2.4 Ridership Estimates
- Subtasks 2.5 Finance and Administration
- Subtask 2.6 Customer Service and Bus Interface
- Subtask 2.7 Development Opportunities and Risks
- Subtask 2.8 Ann Arbor Railroad Extension
- Task 3 Funding

This Final Report and Draft Business Plan summarizes the principal findings and conclusions from those technical memoranda, states the additional steps to initiate service, and provides a ten-year statement regarding financial sustainability.

Review of Work Completed to Date

Railroad Operating Plan and Operating Budget

GLC's interest in hosting and operating commuter service is a great boost toward service implementation. The desired service can be provided in the corridor, subject to station issues and right of way track and signal improvements described elsewhere. Many details remain to be worked out between the service sponsor and the railroad, including rights, responsibilities and compensation. These should be resolved promptly to permit starting work on physical preparations for service, such as track improvements, station development and equipment modifications and procurement (locomotives).

Station Development

Station planning issues require additional effort prior to initiation of design.

The U.S. Department of Transportation (DOT) policy with regard to boarding of disabled persons should be resolved as soon as possible.

Whether or not the Wally Coalition obtains a waiver of U.S. DOT policy, RLBA strongly recommends full-train-length boarding and de-boarding. For five-passenger-car trains, this means platforms must be at least 450 feet in length.

Adequacy of parking and other station planning issues also require resolution. RLBA strongly recommends that parking be available, close to the station platform (a short walking distance), for all who desire to drive their automobiles to the stations in order to use the commuter rail service. Where a developer will provide parking space and lease it, an agreement should be formalized, and lease costs must be included in the annual operating costs.

When additional planning activities have been completed, the NEPA process must be followed to determine the extent of environmental analysis required, if federal funding is to be used in the project. Even if federal funds are not used, station design can not be initiated until decisions are made with regard to exact station locations, and with regard to the various issues discussed in this technical memorandum.

Track, Signal and Grade Crossing

RLBA strongly recommends automobile-competitive commuter rail trip time; therefore RLBA includes cost of improving track so that it will carry passenger trains at a maximum speed of 60 mph. RLBA recommends passenger train layover facilities with 480 volt standby power, locomotive drip pans, roadway vehicle access, crew and maintenance building, lighting, fencing and security. RLBA recommends testing of rail for defects. RLBA recommends installation of a conventional CTC (centralized traffic control) or equal signal system. All these recommendations are included in the RLBA capital cost estimate, which totals \$32.4 million.

Ridership Estimates

RLBA estimates the average number of roundtrips at 1,300 per weekday as compared to the Wally estimate of 1,688 per weekday. The Wally Coalition estimated that 200 roundtrips a day would be "Special Riders" or non-commuter round trips. RLBA believes that since in the current plan there is no mid-day, night or weekend service, these non-commuter trips should not be included in ridership estimates, in order to be conservative. RLBA agrees that Wally should try to attract riders from the non-commuter market. Average daily ridership of 2,600 is considered a reasonable level of starting ridership for a new service.

The Wally Coalition estimated roundtrip ridership per station as follows: Howell, 525; Chilson/Brighton, 306; and Whitmore Lake, 656. RLBA analyzed the population in the areas surrounding the proposed stations and used that data to associate ridership with stations. RLBA estimates the roundtrip ridership at stations as follows: Howell, 350; Chilson/Brighton, 390; and Whitmore Lake, 560.

Growth in ridership over the first five years of operation was estimated at three percent per year by the Wally Coalition. In the same time period, the population and employment in the Wally service area is expected to increase by only two percent. However, factors that make commuter driving increasingly onerous, such as increasing fuel cost and highway congestion, alongside the alternative provision of a reliable, high quality passenger rail service, make Wally's growth forecast reasonable.

RLBA believes that surveying done up to this point has established a good estimate of potential ridership on the Wally service. However, a more in-depth analysis of ridership is suggested. Surveys performed to date do not include estimated total travel time from origin station to destination. Total trip time has an appreciable effect on ridership. Average daily ridership at each station should be estimated from individual responses instead of estimating the breakdown in ridership between stations based on population. On the other hand, the available ridership surveys performed by University of Michigan are deemed a good and sound basis for the current estimate.

Finance and Administration

The draft articles of incorporation and bylaws for the proposed rail authority were reviewed; they appear to be appropriate. The authority should be formed allowing sufficient time in advance of commuter rail operations for the authority to establish a budget, and to arrange for designation and training of staff to accomplish necessary administrative and operating functions necessary to support the commuter rail operation. It is understood that within the Wally Coalition there is the belief that the authority should be formed sooner rather than later, inasmuch as it is the authority that will take action on the remaining implementation steps.

RLBA recommends automated ticket vending machines to sell single ride tickets at stations.

Customer Service and Bus Interface

Connecting bus service is very important to attracting Wally ridership and must be carefully planned and well executed.

Marketing and customer-interface programs are likewise very important in attracting riders and in obtaining rider feedback.

Wally fare collection should be coordinated with that of AATA. Customer convenience should be a paramount consideration.

Development Opportunities and Risks

Development is an opportunity, given appropriate circumstances. There are examples nationwide of successful transit oriented development.

Ann Arbor Railroad Extension

The key challenges in extending Wally Coalition commuter service into downtown Ann Arbor include securing a suitable downtown station location (or locations), and gaining access to a segment of the Ann Arbor Railroad (AARR) by addressing AARR's concerns about potential liability costs of commuter train operations.

Ridership levels associated with extended service into downtown Ann Arbor need to be better understood so the Coalition can evaluate the potential costs and benefits of the extension.

RLBA recommends that:

1. The Coalition and the University of Michigan further research potential ridership volume and needs with regard to prospective downtown station locations and the potential Stadium Complex station, in addition to event-related ridership.
2. The City of Ann Arbor and the Coalition take the steps necessary to establish reasonable certainty that they are able to secure a downtown station location that resolves proximity, grade crossing and eastward uphill walking concerns.
3. The Coalition obtain appropriate professional advice as to whether a lease or purchase of the needed three miles of the AARR would prove the preferable method through which necessary liability insurance could be acquired, and then negotiate an agreement with AARR.

Additional Steps to Initiate Service

Steps Required

The following steps are deemed necessary to consider (applies to all) and take action on (may not apply to all) initiate commuter rail service.

1. Consider performing a more in-depth ridership analysis which includes total travel times and which determines daily ridership by station. RLBA does not consider this crucial; however, the in-depth analysis may provide important additional ridership information.
2. Resolve U.S. DOT (Department of Transportation) ADA (Americans with Disabilities Act) requirements, in light of the policy that platforms run the full length of a passenger train and permit level boarding to all accessible cars.¹
3. Arrange for all necessary funding (to cover both capital and operating expenses).

¹ See www.fra.dot.gov/downloads/Research/commuterplatform.pdf

4. For each station, more detailed planning must be completed to include access and egress, transit interface, kiss and ride access, what is to be included on the platform (e.g., weather protection, communications, ticket vending machine), etc. RLBA strongly recommends full-train-length station platforms, regardless of ADA considerations.
5. The Coalition should make plans for adequate parking at all outlying stations, including an extra allowance for growth. This is deemed very important in attracting riders to the new service.
6. Where a developer is to provide some or all of the station parking (Howell, Lake Whitmore), or a church in the case of Chilson, the Coalition should negotiate appropriate agreements, including lease payment and availability dates.
7. Complete the NEPA (National Environmental Policy Act) process if required.
8. Apply for any necessary permits mandated by state or local codes (e.g., building codes).
9. Establish an authority to manage the service. It is the belief of at least one Wally Coalition official that establishment of an authority should be done soon, so as to provide an organization responsible for execution of these steps to initiate service.
10. Negotiate access and operating agreement with GLC (rights, responsibilities and compensation).
11. Negotiate access to Ann Arbor Railroad for use of that railroad's track to store empty passenger railcars.
12. Execute an agreement with CSX to assure passenger train priority at the Ann Pere crossing.
13. Decide the fare system (what fares to charge, how to collect single-ride fares, etc.), and do this in coordination with AATA. Customer convenience should be a paramount consideration.
14. Arrange for connecting buses and negotiate payment agreements.
15. Update the business plan based upon results of the foregoing steps.
16. Execute rail defect testing and replacement. Execute engineering design of all infrastructure improvements (stations including parking and all platform components, improvement of track speed to support a top speed of 60 mph

- passenger train service, installation of signal system, Ann Pere changes as negotiated with CSX, any other changes required in other negotiations (e.g., with GLC, AARR, AATA), layover facilities) and equipment improvements (passenger railcars), if required.
17. Improve track to automobile-competitive passenger train track speed, construct layover facilities, upgrade grade crossings, and install CTC (or equal) signal system.
 18. Perform any required refurbishment and ADA reconfiguration of passenger railcars.
 19. Procure passenger-train-speed locomotives.
 20. Lease or otherwise acquire any property (real estate) required (for example, stations and layover facilities).
 21. Prepare marketing and customer service plans which include vigorous advertising/marketing of the new service.
 22. Train those who will manage the new service, and train and qualify passenger train crews.
 23. Prepare a safety and security plan, and emergency response plans. Coordinate these with local and state authorities.
 24. Perform final service testing prior to startup.

Importance of the Steps

The above-listed steps to initiate commuter rail service are shown in approximate chronological order. They constitute a management plan/implementation strategy. They also represent the starting point for estimating a project timeline and a critical path. Some of the steps may not be necessary, and some are not considered mandatory. RLBA believes this list covers all possible required actions. On the other hand, there are certain steps which RLBA deems crucial to successful commuter rail service, namely: automobile-competitive travel times, an adequate number of parking spaces at stations, parking located a very short walking distance to the station platforms, convenient and timely shuttle bus service, and station platforms extending the length of the commuter trains.

Initial Steps to Define What Must Be Done (Steps 1-6)

Steps 1 through 6 are the necessary first group of actions to provide the foundation for remaining actions. When these first six steps are completed, a basis for design is

reasonably firm, and the Coalition may proceed safely to steps 6 and 7, NEPA process and permits, respectively.

Among these first six steps, the one which perhaps while require the most time is number 2, resolution of the ADA policy. It is impossible to provide a precise estimate of the time required, inasmuch as much of the action will be outside of the Coalition's ability to control. With assistance from elected officials, this step perhaps could be performed in a matter of a few months.

Step 1, ridership, could perhaps be performed in 3 or 4 months, assuming the Coalition decides to do it and that priority is given to it.

If federal funding is not to used in implementing the service, then Step 3 could be accomplished in whatever time it takes to secure state and local funding.

Step 4, station planning, may be completed in a relatively short time, as soon as steps number 1 (ridership) and 2 (ADA compliance) are resolved.

Steps 5 and 6, both related to parking, may be executed quickly, assuming no difficulty in Step 6 negotiations, following completion of Step 1 (ridership by station).

The critical path with this group of six initial steps appears to lie in Step 2, resolution of ADA access. Assuming simultaneous efforts on all six steps, to the extent possible, RLBA estimates a minimum time (assuming high priority) of four months.

Pre-Design (Steps 7-14)

Steps 7-14 depend upon decisions and actions made in the first group (Steps 1-6) and must be accomplished prior preparation of designs and specifications preliminary to construction/fabrication/procurement.

If federal funding is not used in implementation, then Step 7 would not be required. If there are State of Michigan environmental requirements, they would have to be observed. Step 8 depends upon state and local codes, e.g., building codes.

Step 9, establish an authority to manage or govern the commuter rail service, can be effected at any time. It has been suggested that this step be accomplished first, so as to provide an entity responsible for overseeing all steps.

Negotiation of access and operating agreement with GLC (Step 10) should not take long inasmuch as that railroad is a willing partner, but negotiation of car storage with Ann Arbor Railroad (Step 11) may take some time.

Step 12, execution of an agreement with CSX to assure passenger train priority at Ann Pere crossing, was discussed with a Michigan Department of Transportation official, who seemed to think that this could be accomplished without too much difficulty.

Steps 13 and 14 involve fares and arrangements with local transit services. Presumably the Coalition can handle these steps with dispatch.

RLBA estimates that Steps 11 and 12 (negotiation with railroads other than GLC) would take the most time in this group of steps. Therefore the critical path lies through these two steps and is estimated at three months, assuming high priority.

Completion of Implementation Actions (Steps 15-24)

The Pre-Design Steps (7-14) provide a sound basis for updating the business plan (Step 15) in that Steps 7-14 include actions which refine the anticipated costs.

Step 16 (execute rail defect testing, and prepare designs and specifications) will require perhaps three or four months even if given a high priority and fast-tracked. Unless the Coalition or State is able to sole-source the design, additional time is required for preparation of a Request For Proposals document, advertising of same, preparation of proposals by bidders, and then selection of a consultant. This latter process can consume three or four months. Alternatively, perhaps the State of Michigan Department of Transportation can perform the design in-house or through an on-call contract. Absent that, RLBA estimates seven months or longer for Step 16.

Steps 17-20 constitute the construction, fabrication and procurement efforts necessary to improve the track to automobile-competitive passenger train track speeds, construct layover facilities, upgrade grade crossings, install a signal system (Step 17); perform any required refurbishment and ADA reconfiguration of passenger railcars (Step 18), procure passenger-train-speed locomotives (Step 19) and acquire land, if needed (Step 20). If it is necessary to advertise, an estimated three or four months are required prior to execution of the contracts for these procurements. Another four to six months will be required to perform the work. Total time for Steps 17-20 is estimated to be nine months.

Steps 21-23 (marketing and customer service plan, training/qualification of crews and final service testing, safety and security plan, and emergency response plan) presumably can be accomplished concurrently and within the “critical path” period of Steps 17-20.

Critical Path

| | <u>Months</u> |
|---|---------------|
| Initial Steps to Define What Must Be Done (Steps 1-6) | 4 |
| Pre-Design (Steps 7-14) | 3 |
| Completion of Implementation Actions (Steps 15-24) | <u>9</u> |
| Total | 16 |

RLBA believes this is a “best case”, “fast-track”, “success schedule” estimate, requiring establishment of high priority at State and local levels.

Prioritization of Capital Needs

During the preparation of this Final Report, a question arose as to prioritization of capital needs -- at the time when the decision is made to begin service -- if the entire amount recommended for capital funding of infrastructure improvements is not made available. RLBA strongly recommends that this or any other commuter rail service not be attempted without completion of all those improvements which will convince prospective patrons that they should leave their automobiles and get on the train. RLBA believes that vital improvements include automobile-competitive travel times, adequate parking at stations, and convenient connecting bus service. In the case of Washtenaw-Livingston commuter rail service, automobile-competitive trip time requires 60 mph maximum track speed. RLBA strongly advises completion of all recommended capital improvements before the first commuter train moves.

Ten-Year Financial Sustainability

Review of Wally Business Plan

The February 2008 Wally Business Plan projects operating shortfalls in all but one year for ten years. This is not unusual in public transit operations. Indeed, virtually every public transit system in the world requires public investment to sustain it.

Statement of Financial Sustainability

RLBA has prepared a ten year budget spreadsheet showing capital expenses, operating expenses, expected revenues and funding needs. See Table 1, Funding and Financial Plan.

There is at present no committed funding source for all capital expenses needed to build the track, signal, and station infrastructure deemed necessary to launch an operation which will attract, retain and increase numbers of riders. Also, commitments are needed to supply the necessary annual operating funds deficits. RLBA recommends that the Coalition take steps to seek funding, federal and/or otherwise.

Table1

Potential Funding Sources

There are many potential federal funding sources. All likely avenues should be investigated. The current federal surface transportation authorization expires in September 2009. Given the increasing use of earmarks nationwide, the Wally Coalition may wish to discuss this subject with its Congressional Delegation.

Management Structure

The Subtask 2.5 Finance and Administration technical memorandum provides a discussion of the management structure needed to oversee and administer a commuter rail service.

RLBA recommends an organizational structure comprising the following functions.

- Executive
- Operations
- Finance and Administration
- Planning and Programming
- Customer Service and Marketing

These are functions, not necessarily staff positions. RLBA recommends a minimum staff (to keep expenses reasonable) consistent with effective ability to handle the functions. For example, it may be reasonable to combine the functions of Finance and Administration with Planning and Programming under one Manager. It may be appropriate to have the Executive Director double as the Manager of Operations.

The Executive Director would report to a Wally Board of Directors. Managers (four or fewer) would report to the Executive Director. Most new commuter rail operations begin with relative “lean” staffs and then expand as demands require and as the service grows.

Operation and Maintenance Plan

RLBA proposes an operating plan, including sample train schedule, in the Subtask 2.1 Railroad Operating Plan and Operating Budget technical memorandum. The RLBA-proposed operating plan includes a discussion of train crews and equipment, and mentions the infrastructure (right of way, track, signals, layover facility, and midday storage facility) deemed necessary for the initial service between Howell and Plymouth Road in Ann Arbor.

“Management and Control of Station Sites” is discussed in the Subtask 2.2 technical memorandum on Station Development. A “Maintenance Plan” for stations is also provided in that technical memorandum.

Operating and maintenance are further discussed in the Task 3 Funding technical memorandum under the heading “Operations Budget for Sustained Operation”, and the estimated expenses are included in Table 1. Expenses are cited for train fuel, trackage rights, connector buses, station/parking leases, liability insurance and other operating and maintenances activities.

Ridership Forecasting and Revenue

This subject is covered in the Subtask 2.4 technical memorandum on Ridership Estimates and the Task 3 technical memorandum on Funding. RLBA considers 2,600 to be a reasonable estimate of daily ridership (total daily trips). Ridership revenue would cover approximately 27 to 29 percent of operating expenses, which is considered reasonable for commuter rail service.

Financing Plan

This subject is covered in the “Ten-Year Financial Stability” section earlier in this paper, which section is in turn backed up with the Task 3 Funding technical memorandum.

Briefly, the “Ten-Year Financial Stability” section states that operating shortfalls are not unusual in public transit operations; virtually every public transit system in the world requires public investment to sustain it.

Table 1, Funding and Financial Plan, provides RLBA’s ten-year budget spreadsheet showing capital expenses, operating expenses, expected revenues and funding needs.

Committed funding sources are required to cover capital expenses needed to build the track, signal, and station infrastructure which is required to launch an operation which will attract, retain and increase numbers of riders. Funding commitments also are needed to cover annual operating requirements.

Marketing Plan

In anticipation of the start of new commuter rail service, it will be of great importance to advertise vigorously. Advertising should be aimed at convincing the greatest numbers possible to leave their automobiles behind and ride the train.

Discussion of a marketing plan is contained in the technical memorandum for Subtask 2.6, Customer Service and Bus Interface.

Associated closely with marketing the service is a customer service plan, which should be developed prior to start of service and which is discussed in the “Customer Care”

section of the technical memorandum for Subtask 2.6, Customer Service and Bus Interface.

Implementation Plan

The 24 steps listed above under “Additional Steps to Initiate Service” constitute the implementation plan. As noted above, not all steps may be necessary, and as noted above, there are several steps (or actions within steps) deemed crucial to successful commuter rail service, such as automobile-competitive travel time.

The “Additional Steps to Initiate Service” section also provides a rough basis for estimating a project timeline, and states which “critical path” items require priority attention.

Overall Conclusions

Commuter rail service connecting Howell and Ann Arbor is feasible.

Additional actions are required prior to initiation of service. These have been examined and a “critical path” schedule of approximately 16 months has been estimated. This timeline is highly subject to change depending upon priorities, ease/difficulty in obtaining funding, and in decisions by other parties beyond Wally’s control.

A U.S. Department of Transportation policy related to the Americans with Disabilities Act should be resolved. Funding must be secured. Station planning, including parking, must be refined prior to initiation of design. A number of agreements remain to be negotiated. An organization to execute these and other steps should be established.

Certain steps to initiate new commuter rail service are deemed by RLBA to be crucial to success. These are automobile-competitive travel times, an adequate number of parking spaces at stations, parking located a very short walking distance to the station platforms, convenient and timely shuttle bus service, and station platforms extending the length of commuter trains.

Subtask 2.1. Railroad Operating Plan and Operating Budget

Requirement

The contractor will review and comment on the GLCRR operations plan provided to establish sustainable commuter passenger service in this corridor. Review should also include visual inspection of rail infrastructure and equipment. GLCRR will furnish the equipment and pilot necessary to complete visual inspection at no cost to contractor. Observations of operations personnel's ability to meet all safety, contemporary standards required to operate passenger service and with special attention to assure ADA compliance will also be provided by the contractor.

The contractor shall review the operations issues including but not limited to locomotive maintenance, fueling and any other pertinent details including schedule of cleaning and maintenance of the coaches needs and comment on whether they meet appropriate standards.

The contractor shall review the anticipated mechanism(s) to provide service that can accommodate all passengers with handicaps.

Discussion

Operating Plan

RLBA has reviewed commuter rail operating plan contained in the document "AA Transit" prepared by GLC. That plan contains many valid concepts which are incorporated in the following operating plan.

Concept

The rail route is 26.9 miles in length one way, between Howell and a station at Plymouth Road in Ann Arbor. An extension of another 2.86 miles between the Plymouth Road Station and a station near the University of Michigan stadium is a possibility. Four train sets initially would provide four morning and four evening trips each weekday. Trains will be operated in push-pull fashion. The passenger coaches will be pushed by a locomotive, but controlled by a cab car on the southbound move and pulled by the locomotive on northbound movement, eliminating the need to change the position of the locomotive on opposite direction trips. This is a conventional and efficient practice, employed nationwide.

Stations

Station locations under consideration include Howell, Chilson, Hamburg, Whitmore Lake, and Plymouth Road in Ann Arbor. Also under consideration is a

possible extension to the University of Michigan stadium with a potential downtown Ann Arbor stop. Stations are described in the next section of this report and the extension is addressed later.

A proof-of-purchase fare system is recommended for Wally service; such systems have been adopted in almost all recent commuter rail implementations. It is recommended that ticket vending machines (TVM) located at each station accept credit cards. Ticket validators (to “punch” individual and ten-trip tickets) would be located on platforms. No cash sales would be made at stations or on trains. If desired, cash ticket sales could be offered at the Wally office and perhaps at selected retailers.

The Wally service would accommodate disabled passengers, as discussed in following sections concerning stations and equipment.

Train Operations

The proposed Wally operating plan is based upon the concept that the service must be both convenient and automobile-competitive in terms of transit time. In order to do so, a maximum operating speed of 60 mph is prescribed on GLC track. There is one curve which will require reduced speed as will the CSX crossing at Ann Pere, which is south of the Lucy Road Park, near Howell. The Ann Pere crossing signal could be upgraded from an automatic (first come-first served) basis to one controlled by a dispatcher. The Wally Service should seek an agreement with CSX for commuter train priority at the crossing.

Experience indicates that allowing one minute of dwell time at stations is appropriate until actual experience dictates otherwise. If service is extended beyond Plymouth Road, that station probably would require a longer dwell time, two minutes initially, to accommodate the significant expected number of passengers loading/unloading at that point. A sample schedule is shown below.

Sample Train Schedule

| Station | Morning Inbound Trains | | | |
|--------------------------|-------------------------------|---------|---------|---------|
| Howell | 6:00 AM | 6:30 AM | 7:00 AM | 7:30 AM |
| Chilson | 6:09 AM | 6:39 AM | 7:09 AM | 7:39 AM |
| Hamburg | 6:20 AM | 6:50 AM | 7:20 AM | 7:50 AM |
| Whitmore Lake | 6:24 AM | 6:54 AM | 7:24 AM | 7:54 AM |
| Ann Arbor Plymouth Rd | 6:36 AM | 7:06 AM | 7:36 AM | 8:06 AM |
| Ann Arbor downtown | 6:44 AM | 7:14 AM | 7:44 AM | 8:14 AM |
| Ann Arbor U of M Stadium | 6:52 AM | 7:22 AM | 7:52 AM | 8:22 AM |

| Station | Evening Outbound Trains | | | |
|--------------------------|--------------------------------|---------|---------|---------|
| Ann Arbor U of M Stadium | 4:30 PM | 5:00 PM | 5:30 PM | 6:00 PM |

| | | | | |
|-----------------------|---------|---------|---------|---------|
| Ann Arbor downtown | 4:37 PM | 5:07 PM | 5:37 PM | 6:07 PM |
| Ann Arbor Plymouth Rd | 4:45 PM | 5:15 PM | 5:45 PM | 6:15 PM |
| Whitmore Lake | 4:57 PM | 5:27 PM | 5:57 PM | 6:27 PM |
| Hamburg | 5:01 PM | 5:31 PM | 6:01 PM | 6:31 PM |
| Chilson | 5:12 PM | 5:42 PM | 6:12 PM | 6:42 PM |
| Howell | 5:22 PM | 5:52 PM | 6:22 PM | 6:52 PM |

GLC is willing to perform freight service at night in order to make tracks available to commuter rail trains during daytime. GLC notes that the freight interchange with AARR has been performed at night in the past without difficulty. AARR has expressed some concerns about that plan. If night freight service does not work out, RLBA believes freight service could be performed between morning and evening commuter trains based on the initial commuter schedule. Improvements needed at Osmer to support daytime freight operations are addressed below under infrastructure.

Train Crews

Crews would consist of two persons, a conductor and an engineer. Crews would report for duty in the morning at the night layover facility at Oak Grove. Each crew would move its trainset to the Howell station for boarding and departure at the scheduled time. Upon the completion of the inbound trip, each trainset would be pulled south of the Plymouth Road station onto AARR track. The trainsets would be coupled into a single train and moved as one to the daytime layover track to be built at Osmer. Crews would remain on board to Osmer and then be transported via highway to the Oak Grove reporting/rest facility, and according to GLC, “the train crews will be released upon tie up at mid-day for at least four hours in order to return for evening service.” This would be in compliance with the Federal hours of service laws governing railroad operating employees.

Crews would report back on duty for evening service at the Oak Grove facility and be transported via highway to the daytime layover point. All four trainsets would be moved as one train to Plymouth Road and staged south of the station on AARR track. Each crew would uncouple its trainset and move it to the station for boarding and departure. Upon reaching Howell, each empty train would be moved individually to the Oak Grove layover facility where crews would go off duty. Trainsets would be cleaned and serviced as needed at night at Oak Grove.

On-board crew duties would include all aspects of passenger interface – inspecting fares, assisting passengers, handling doors and ADA access equipment, answering questions, walk-through collection of papers and trash after each run.

Equipment

Federated Railways (FRY) has procured 51 Budd-built commuter rail cars previously used in Metra's Chicago area commuter service. An appropriate number of cab control and coach cars will be leased to the Wally service.

GLC or FRY is expected to acquire and lease to the Wally service five locomotives to operate four trainsets and provide one spare.

On May 29, 2008, two commuter rail passenger cars were inspected at the GLC's Owasso, Michigan yard. Don Gezon of RLBA met with Mr. James Schell, Vice President and Chief Mechanical Officer of GLC and examined the cars.

The cars (two 1950 Budd built coaches, subsequently rebuilt in 1973-4) were available for inspection. Car 720 is a standard bi-level coach and the 790 is a cab-coach. The cab-coach is equipped with an operator's cab for push-pull operation. Based on discussions with Mr. Schell, it is accepted that both cars are acceptable for service meeting all pertinent mechanical/electrical regulation requirements. While collision posts are not present, the cab cars are grandfathered, having been rebuilt in 1973-4. The cars are in good condition with no obvious mechanical or cosmetic defects. They are equipped with head-end 480 volt, 3-phase electrical power, and with train lines for electrical supply and locomotive control. Some modification of the existing door controls will be required, but is not a major concern.

The one problem that will need to be overcome is how to meet the requirements of the Americans with Disabilities Act. Boarding and exiting the cars requires using four steps as presently configured. It is likely that mechanical lifts at each station would provide means of complying with the regulation. Circulation between cars by wheel chair is not possible because the bi-level cars have raised thresholds between cars.

Infrastructure

RLBA inspected the corridor by means of a hi-rail trip hosted by GLC on May 2, 2008. Findings of that inspection are presented in Task 2.3. Infrastructure requirements summarized below are based upon planned operations, discussions with GLC, observations made during the inspection and infrastructure analysis in Task 2.3.

Based on one-way peak period service and night freight operations, no new sidings are needed for train meets. Expanding service or implementing two-way peak period service would create the need for sidings where one commuter train can pass another going in the opposite direction. Farther in the future, expanded service hours or changes in freight operations conceivably could cause concurrent freight and passenger operations with a resulting need for additional sidings or other infrastructure.

Although the existing Osmer siding would seem to be available for daytime commuter train storage based upon GLC-AARR interchange being conducted at night, it would be prudent to construct a new daytime commuter train storage siding at Osmer. This would leave the existing siding available for interchange and freight use. Extending the existing siding to accommodate 90-car trains could be done at the same time to improve freight efficiency and facilitate shared use.

Overnight Layover Facility

The proposed location of the overnight layover facility is Oak Grove siding, north of Howell. While earlier planning may have considered a “bare bones” approach based upon parking commuter trains overnight on the existing siding, RLBA believes that a proper layover yard should be constructed to facilitate cleaning, servicing, security and perhaps light maintenance. The layover yard/plan should provide for cleaning, servicing, an access road between tracks to facilitate cleaning and servicing, standby power, fencing, a building for crew reporting and rest facilities, and utilities.

Midday Storage Facility

After unloading passengers, each trainset will pull onto AARR trackage south of the Plymouth Road station. (RLBA understands that GLC and AARR have had preliminary discussions concerning this concept.) When all four trainsets are empty, they will be coupled together and the last inbound crew will move them together to the daytime layover track at Osmer (or Whitmore Lake if Osmer is not available) for day storage. Crew members could walk through and pickup trash there or at Plymouth Road. The first outbound crew would move all trainsets from Osmer to AARR track south of the Plymouth Road Station. Each trainset would be moved north to the station for boarding at the appropriate time.

Signal System

RLBA recommends that a signal system be installed on the trackage to be used by the Wally service. RLBA has made the same recommendation to its prior commuter rail clients, and almost all new services have been implemented on signaled trackage. Signal system alternatives and costs are discussed in Task 2.3.

Next Steps and Critical Path – Rail Operations

The next step with respect to commuter operations is to negotiate access and operating terms with GLC. In many new starts, particularly those involving larger railroads, these topics have been the subject of separate agreements because the host railroad often does not want to be the commuter service operator. In that model, the service sponsor negotiates an access agreement with the host

railroad and then initiates a competitive procurement to select a commuter rail operator. The access agreement also opens the door for the commuter rail service sponsor to construct improvements such as stations on railroad property and to initiate track improvements whether performed by the host railroad or by a contractor with the host railroad's concurrence.

The Wally situation is different since GLC is offering to be the host railroad and the commuter service operator, and it is logical to implement service with GLC fulfilling both roles. The Wally Coalition could enter into an agreement that combines access and operations or could seek to develop a two-part agreement that separates the two in a way such that the service could be operated by another party at some future time either at the option of the Wally Coalition or upon mutual agreement of the Wally Coalition and GLC.

In either event, as soon as a decision is made to implement the service, access and operating negotiations should commence so that GLC can participate in service development and so that construction activities and track improvements may commence. RLBA understands that GLC must have the State's approval to operate passenger service, so both the Wally Coalition and GLC should continue their dialog with MDOT so that the needed approval is forthcoming on a timely basis.

Operating Budget

RLBA's review of the proposed Operating Budget is incorporated in the Task 3 Funding section of this report.

Conclusion

GLC's interest in hosting and operating commuter service is a great boost toward service implementation. The desired service can be provided in the corridor, subject to station issues described elsewhere. Nonetheless, many details remain to be worked out between the service sponsor and the railroad, including rights, responsibilities and compensation. These items should be resolved promptly to permit starting work on physical preparations for service, such as track improvements, station development and equipment modifications and procurement (locomotives).

Subtask 2.2. Station Development

Requirement

The contractor shall review the coalition developed preliminary site evaluation and station development reports and provide a list of remaining steps towards completion. The contractor shall review rail station and system access, egress and parking needs. The contractor will identify assurances needed for Wally's interests in management and control of station sites.

The contractor shall identify all necessary design elements for station development including site-specific environmental issues, e.g., wetlands, possible contamination and underground utilities and other relevant matters. The contractor shall identify access to utilities, electricity and communications for station locations. The contractor shall provide examples and recommend construction-contracting processes.

The contractor shall describe processes to manage the interaction between project needs and community wants in light of the limited resources for such improvements.

The contractor shall review stations beyond the immediate platform design and development including but not limited to parking needs, access and circulation, interface areas for connecting transit service as well as "kiss and ride" areas. The contractor shall determine if station site access and circulation needs are appropriate for the service.

The contractor shall provide a recommended station maintenance operations plan. The contractor shall provide examples of plans for wayfinding signs to/from the stations.

Deliverable: Technical memorandum that provides an assessment of Station Development as described in detail above, that identifies additional work areas to complete planning phases, and that identifies critical path to initiation of service.

Discussion

Materials Reviewed

RLBA reviewed the following site evaluation and station development reports:

- Station area inventory and analysis
- Planned route and stations
- Conceptual station platform design
- Pertinent portions of the Draft Business Plan

The latter states (Section 3.2, Commuter Rail Program Summary) that the four initial stations will include Howell (downtown), Chilson/Brighton, Whitmore Lake and Barton Road, that Hamburg station will be constructed after start of service because of funding

issues, and that ADA access will be via railcar-borne devices or mini-high blocks strategically located. In Section 5.1, Current Budget Status, the Draft Business Plan forecasts station costs of \$2,286,000. However, the figures provided in fact add up to \$2,769,000:

| | |
|--------------------------|----------------|
| Track upgrade | \$364,000 |
| Track Sidings/Main | 200,000 |
| Howell Design | 805,000 |
| Chilson/Brighton Station | 320,000 |
| Hamburg Station | 205,000 |
| Whitmore Lake Station | 550,000 |
| Ann Arbor Station | <u>325,000</u> |
| Total | \$2,769,000 |

RLBA also considered comments, on the subject of stations, made in the May 1 and 2 meetings, and interviewed members of the Station Committee. Comments touched on environmental issues and availability of parking at stations. Concerns were expressed regarding having an adequate number of parking spaces.

Visits to Station Sites

RLBA visited station sites on May 2, assisted by Terri Blackmore. Comments on those sites follows:

Howell

There is an old depot building at the north end of N. Walnut Street. There is not much space for parking in evidence. Subsequent phone conversation with Nathan Voght provided assurance that 150 parking spaces are available today within a short walking distance, and another phone conversation with Norb Boes provided the statement that development plans for the site will include adequate station parking. Given the downtown location of this station, all urban services (utilities, electricity) are presumably available.

Chilson/Brighton/Genoa

The prospective station is to be located adjacent to Chilson Hills Church property, and it is understood that a lease will be negotiated so that the commuter rail service may utilize church parking spaces. A platform would be located on west side of the main line tracks. Electricity is available. The station has immediate access to roadways as it is close to the intersection of Brighton Road and Chilson Road. Wetlands exist to the east of the railroad siding, which is on the east side of the main track. A very small wetland on the west side of the track may require some degree of mitigation.

Hamburg (future station)

Two sites were visited: one adjacent to Merrill Road and immediately north of Hamburg Township Hall, and the other, adjacent to Hamburg Road. The former location is beset with wetlands. Parking would have to be at some distance – at least a few minutes’ walk -- from the station. The Hamburg Road site appeared to have no wetlands. Both locations are served by nearby power lines. It is possible that an archeological dig may be required, depending upon exact site selected.

Whitmore Lake

One site was visited, adjacent to Eight Mile Road. No wetlands or wetlands vegetation in evidence at this site. Power is available. A location for a platform and for parking appear to be available, depending upon planned use of former industrial area.

Plymouth Road at Barton Drive

It is understood that the platform location is planned east of Barton Drive and between the railroad and Plymouth Road. A member of the Station Committee said that the plan is for passengers to walk westward along the platform towards Barton Drive. At the south end of the platform, north of Milepost 47.5, a walkway would be constructed to link the platform to the sidewalk along Plymouth Road. Passengers would board buses alongside Plymouth Road. It was stated that, because of wetlands, platform length would be limited to two cars. Passengers in the third, fourth or fifth car would be obliged to walk through the cars to reach the second car, and deboard. RLBA considers this an inappropriate method of deboarding and recommends 500 foot platforms (assuming five-passenger-car trains) at all stations.

Washington Street (potential future station, downtown Ann Arbor)

Track level is approximately 12 feet above ground level, requiring construction of an elevated station platform. One local official stated that transit connections would be required, as this station is some distance (seven or eight blocks) from downtown destinations. Also, it is an uphill climb to those destinations, so winter snow and ice would be a problem. In any event, RLBA suggests consideration of connecting bus service to nearby or more distant downtown destinations if such service appears to be needed.

W. William Street (potential future station, downtown Ann Arbor)

The City of Ann Arbor owns a property at this location. The property is at the same grade as the railroad in this location, and is a “key hole” that provides direct access to Ashley Street. The Downtown Development Authority idea is that this location could be a transit oriented development with at-grade access on the west near the railroad, and at-grade access on Ashley Street. A major Ann Arbor bus transfer station is located at 4th Avenue and William Street.

Hoover Avenue (potential future station, near University of Michigan stadiums)

The University of Michigan indicates that a station here would not be a big destination except for special events at the stadiums. Otherwise, the number of people employed on the south campus location is relatively small. An Ann Arbor transportation official states that there are large concentrations of employers south of Hoover Avenue, along S. State Street. That official suggests that private shuttles or subscription bus service could be made available from a Hoover Avenue station location, and be able to serve additional employment zones.

Additional Discussion with Regard to Downtown Ann Arbor Station Sites

Subsequent to RLBA visits to potential downtown Ann Arbor station sites, there was considerable discussion with various officials regarding these sites.¹ Following is a discussion of the results.

Downtown station sites will need to address certain key City concerns as identified by City and Coalition officials: (1) proximity to the core downtown, the center-point of which is the intersection of Huron and Main Streets, (2) blocking city streets that have significant traffic during the rush hours, and (3) mitigating the impact of the eastward uphill walk (toward Ashley Street) that passengers would encounter when walking toward downtown and the University of Michigan's central campus. Potential locations were discussed at some length with local officials.

Available railroad right of way segment lengths between cross streets at the three sites range between 200 and 450 feet, which gives rise to the issue of whether all cars of a train will have access to a station's platform. Regardless of whether or not this prospective new commuter rail service is required to meet U.S. Department of Transportation policy with regard to ADA (Americans with Disabilities Act) requirements, which policy is that the disabled must be able to board and deboard all cars in the train, RLBA strongly recommends that all platform lengths on the prospective commuter rail service be designed and constructed so as to allow boarding and deboarding from every car on the train. Otherwise, passengers would be required to board a specific car, depending upon their destination stations, or move through the train to reach the appropriate car. This practice is not recommended.

RLBA further recommends platform length design consider growth in ridership.

1. The proposed West Washington Street site would allow distance of 380 feet of the west side of the AARR right of way between West Washington and West Liberty Streets. In order to board and deboard all cars, a platform of approximately 500 feet could be constructed at track level (approximately twelve feet above ground level) and extend beyond either West Washington or West Liberty.

This proposed station site is about 300 yards from the intersection of Huron and Main Streets, and since it is an uphill climb to those destinations, winter snow and ice could

¹ Discussion included Eli Cooper, Terri Blackmore and Susan Pollay.

be a problem. It is understood that the proposed station site is a parcel of city-owned land currently subject to a development RFP process. Some of the resulting development proposals include rail transit options. The property is in a flood zone which imposes limits on the type of development that can occur there. A concern was expressed that station construction should not result in the blocking of West Liberty Street, described as a major east-west arterial. An elevated platform crossing W. Washington Street need not interfere with West Liberty Street traffic.

2. Near the intersection of West William and 1st Streets, the railroad right of way is at ground level, creating closely-spaced grade crossings and odd-shaped lots. There appear to be two possible sites. Between the point where the railroad crosses South First Street at grade, and where the railroad crosses West William Street at grade, a city-leased parcel abuts the east edge of the right of way. The Downtown Development Authority is exploring development of this parcel in ways that would include means to minimize the steep uphill walk toward Ashley St. to the east. One official suggests a 200-foot platform at this location. Again, RLBA strongly recommends against short platforms. RLBA believes that the city should not stint on platform lengths, which could cause patrons to miss a stop, or could cause slow boarding and deboarding. RLBA believes that Ann Arbor should consider closing a street if necessary.

Another possible West William Street site is further to the south, on the segment of railroad right of way between West William Street and South Ashley Street. It is understood that about 450 feet are available here for a platform. This may accommodate five-car trains. The site is about one-third of a mile from the intersection of Huron and Main Streets. This site has the same uphill walk issue. A former railroad passenger station, now used as a daycare center, lies between the east edge of the right of way and South Ashley Street. A major Ann Arbor Transit bus transfer station is located at 4th Avenue and William Street.

3. A potential future station near Hoover Street would serve the University of Michigan stadiums. The University of Michigan indicates that a station here would not be a big destination except for events at the stadiums. Otherwise, the number of people employed on the south campus location is relatively small. On the other hand, more than 100,000 people attend the football games, and others travel to the south campus for hockey, basketball and baseball games. Special event trains should be considered.

The railroad right of way between Hoover Street and Stadium Street (to the southeast) is approximately 1,900 feet long and is about 135 feet wide on the southernmost 1,386 feet. A University office building complex is proximate to the northwest edge of the right of way.

Identification of Issues Requiring Additional Attention

Review of the information and data provided, discussions with various interested officials, and visits to station sites, indicate that additional attention is required with regard to the following:

- Sufficiency of planned parking
- U.S. Department of Transportation ADA policy and station platform requirements
- Environmental issues

Following is a discussion of each.

Sufficiency of Planned Parking

Section 3.2 (page 12) of the Draft Business Plan states that “over 850 free spaces will be provided at the stations outside of downtown.” Table 6.1, projected costs and funding, shows 150 current spaces at Howell and 140 at Brighton/Chilson/Genoa, and potential spaces totaling 300 at Howell, 175 at Brighton/Chilson/Genoa, and 375 at Whitmore Lake. The potential numbers add up to 850.

“Potential riders” is estimated in the same table at 1,688 in year one, and 2,202 in year ten. Approximately 2/3 of the ridership numbers represent University of Michigan passengers. This is the number of riders arriving at stations in the morning; total daily ridership, or trips, would be double this number.

The same table, Table 6.1, assumes 1.75 passengers per car arriving at the station. This 1.75 figure seems unduly high. The Ann Arbor Downtown Parking Study (prepared for the Ann Arbor Downtown Development Authority in 2007) shows a range of 1.14 to 1.45 in a discussion of commuters per private vehicle, with 1.14 being the Michigan statewide average and 1.45 being the downtown district factor. Washtenaw County is shown as 1.22, and all Ann Arbor, 1.31. Absent any justification of the 1.75 figure, RLBA concludes that a much lower factor should be utilized in connection with outlying stations of the proposed commuter rail service. Use of a lower factor will of course increase the parking spaces requirement.

Draft Business Plan estimated ridership by station also is shown in Table 6.1:

| <u>Station</u> | <u>Potential Riders</u> |
|-----------------------------|-------------------------|
| Howell | 525 |
| Hamburg | |
| Brighton/Chilson/Genoa | 306 |
| Special Riders (Daily Rate) | 200 |
| Whitmore Lake | <u>656</u> |
| Total | 1,687 |

It appears that Special Riders (Daily Rate) refers to those riders who do not use a monthly or weekly pass, but rather pay by the trip. The Draft Business Plan apparently does not distribute these riders by station. It is evident that station parking has been sized for first year ridership (exclusive of the Special Daily Rate Riders) and based upon a factor of 1.75 passengers per car parked at stations. On the other side of this discussion, RLBA recognizes that “kiss and ride” passengers, and bicyclists, will require

no parking spaces. RLBA has not seen evidence, however, that the “kiss and ride” and bicyclist percentage will be appreciable. Thus, all these things considered, it appears that the number of parking spaces needed has been underestimated, as a result of: too optimistic a passengers-per-car factor, using first year ridership only (there should be space available for growth in parking requirements with growth in ridership), and the apparent fact that Special Daily Rate Riders have not been considered. In addition, it must be recognized that even the most sophisticated ridership estimation will result in numbers which may turn out to be substantially differently in the actual implementation of new commuter rail service.

In Subtask 2.4, Ridership Estimates, RLBA suggests what it considers a more reasonable allocation of arriving (in the morning) riders per station, per day:

| | |
|------------------------|------------|
| Howell | 350 |
| Chilson/Brighton/Genoa | 390 |
| Whitmore Lake | <u>560</u> |
| Total | 1,300 |

RLBA recommends a passengers per car factor of 1.2 and an added contingency of 20 percent to acknowledge that even the best ridership estimates are “educated guesses”. RLBA does this to prevent a recurrence of the very common problem throughout the U.S. public transit industry, parking-constrained-ridership.

RLBA was briefly concerned that there might be another potential issue, associated with ridership estimates, that is, that student riders would use commuter rail service only during months when school is in session, rather than twelve months a year. It is understood that student activity at U.M. is concentrated in eight months of the year. David Miller of U.M. states that students were not considered in U.M. ridership surveys, as it is not expected that many students would use the service, because not many students commute to school.

Utilizing the new RLBA-estimated numbers of riders daily arriving at each outlying station, and then applying a passengers-per-car factor of 1.2, and the 20 percent contingency (to reflect inherent inexactness in ridership forecasting, as well as to accommodate expected ridership growth), results in parking requirements as follows.

| <u>Station</u> | <u>Potential Riders</u> | <u>Parking Space Requirements</u> |
|--------------------------|-----------------------------|---|
| Howell | 350 | 350 |
| Hamburg (future station) | | |
| Brighton/Chilson/Genoa | 390 | 390 |
| Whitmore Lake | <u>560</u> | <u>560</u> |
| Total | 1,300 | 1,300 |

The figures are the same in the two columns because the division by the 1.2 factor to reflect the number of riders per automobile, and then multiplication by 1.2 to add a 20 percent contingency, have the mathematical effect of cancelling each other out.

Thus Wally is left with an overall parking requirement of 1,300 spaces, as opposed to 850, assuming ridership has been reasonably forecasted. 1,300 spaces is about 50 percent more than the Draft Business Plan estimate. The Draft Business Plan indicates that some parking is already available and (presumably) will require no additional cost, at two locations: 150 spaces at Howell, and 140 spaces at Brighton/Chilson/Genoa. The latter spaces are assumed to be those in the church parking lot. If this is the case, there will be a cost, perhaps a lease cost, and that cost is to be negotiated. The 150 spaces at Howell are not apparent based upon on-site inspection of the proposed station location, where N. Walnut Street approaches the Great Lakes Central Railroad; however subsequent phone conversation provided assurance that 150 spaces are indeed available within a short walking distance from the proposed station.

Following is a summary of the parking space situation.

| Station | Potential Riders | Parking Space Reqmnts | Available Parking | Deficit |
|--------------------------|------------------|-----------------------|-------------------|------------|
| Howell | 350 | 350 | 150 | 200 |
| Hamburg (future station) | | | | |
| Brighton/Chilson/Genoa | 390 | 390 | 140 | 250 |
| Whitmore Lake | <u>560</u> | <u>560</u> | <u>0</u> | <u>560</u> |
| Total | 1,300 | 1,300 | 290 | 1,010 |

A developer states that Whitmore Lake station parking will be provided as part of a development, and the parking lot will be leased. Thus there will be an unstated annual lease charge. Likewise there will be an annual rent for 140 spaces at the Chilson Hills Church. Another developer indicates he will provide parking at the Howell station; presumably someone will be paying for use of those spaces. That leaves a 250 spaces deficit at the Brighton/Chilson/Genoa station, the construction cost of which is roughly estimated at \$875,000 (250 x \$3500), not including real estate cost.

Please note that the foregoing estimate regarding the required number of parking spaces is for the start of commuter rail service only. The Coalition must recognize that virtually all new start commuter rail services grow in ridership with time; it is important that the Coalition make plans to expand parking as necessary.

Given likelihood of snow and ice in winter, it is recommended that all parking be paved.

U.S. Department of Transportation Commuter Rail Platform Guidelines

The U.S. Department of Transportation states that “the norm for new commuter and intercity rail stations is a platform running the full length of the passenger boarding area

of the station that permits level boarding to all accessible cars of trains stopping at the station. Level boarding for all cars of a train is significant because, if passengers with disabilities are unable to enter all cars from the platform, the passengers will have access only to segregated service. This would be inconsistent with the nondiscrimination mandate of the ADA.”² The Department’s regulations define level boarding “as involving a horizontal gap of no more than three inches and a vertical gap of no more than 5/8 inches”. The Department recognizes that meeting or maintaining the three inch and 5/8 inch gap requirements “is likely to be infeasible in most commuter and intercity rail stations” and therefore allows use of “short bridge plates”. If that approach is not feasible, then “another solution permitting access to all cars” should be employed, for example, car-borne or station-based lifts serving each accessible car. Full-length level boarding is the U.S. Department of Transportation (DOT) policy.

This above-summarized U.S. DOT policy appears to rule out plans by Great Lakes Central Railroad and Federated Railways to modify one car per train to be in compliance with ADA requirements. It appears that all passenger coaches would have to comply with ADA requirements.

This also appears to rule out plans for shorter platforms. All platforms will have to be long enough to serve the full extent of the passenger coaches which are part of the train. If five coaches are envisioned on some trains, this would mean a platform approximately 450-500 feet in length.

In order to insure understanding, RLBA phoned Federal Railroad Administration and spoke to Mr. Dick Cogswell, who confirmed that level boarding is required in the instance of new passenger rail service, absent a very strong reason for infeasibility. Cogswell stated that the standard in Michigan, Ohio, Indiana and Illinois is the 15 inch high (above top of rail) platform, which permits level boarding for the Amtrak Superliner cars and the so-called California Car. (On the other hand, 48 inch platforms are the norm in northeastern United States.)

The type of passenger railcar intended to be utilized in the Ann Arbor-Howell commuter rail service was acquired from Chicago Metra. The bilevel Budd railcar features a seating capacity of between 134 and 148 (Draft Business Plan says “about 160”; a specifications sheet provided by Mike Bagwell shows between 145 and 148), and with a 16 inch (above top of rail) boarding height. However, the railcar entrance has three steps upward (within the railcar) to reach a 40 inch above top of rail floor level (the lower floor level of the bilevel car).

Mr. Cogswell advises that the commuter rail sponsors get in touch with their Regional Federal Transit Administration office in writing as soon as possible so that this issue may be resolved.

² This paragraph summarizes the U.S. Department of Transportation guidance and is taken from www.fra.dot.gov/downloads/Research/commuterplatform.pdf. ADA is the 1990 Americans with Disabilities Act.

Regardless of ADA requirements, RLBA strongly recommends platform length corresponding with the expected train lengths, in order to avoid customer confusion. 500-foot platforms at each station would cost roughly \$350,000 per station (\$700 per lineal foot x 500 feet), or \$1,400,000 for four stations. (RLBA recommends that platform length design consider potential ridership growth.) Any required land acquisition, shelters, telephones, ticket vending machines and lighting would be an additional cost. Also to be added would be engineering design and construction management costs, approximately 18 percent of construction cost.

Site-Specific Environmental Issues

The Phase Three Report, "Detailed Analysis of the Selected Route", of the *Lansing to Detroit Passenger Rail Study* (July 2000) includes discussion of the environmental screening performed on the selected corridor, which includes the Ann Arbor-Howell segment. The environmental screening was conducted in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) guidelines and other state/federal environmental regulations.³ The report states that no major issue was discovered which would preclude moving forward with the project. Indeed, the report notes environmental benefits in terms of reduction in vehicle miles of travel and related benefits such as air quality improvements and enhanced mobility opportunities.

However, although the Lansing to Detroit study's environmental screening is encouraging, the prospective station locations in the *Lansing to Detroit Passenger Rail Study*, with regard to Howell and Ann Arbor stations, are different from the Howell and Ann Arbor station locations in the current study. (The Lansing to Detroit study plans no stations between Howell and Ann Arbor.) And it is at the stations where construction of new parking, station access roads, and kiss and ride lanes, would require appropriate NEPA actions if federal funding is to be used in this project.

Thus it is clear that additional environmental work must be done to follow the NEPA process, assuming federal funding is to be used.

An estimate cannot be made of the cost of environmental mitigation without first performing an environmental survey.

It is understood that an environmental paper has been sent by the Wally Coalition to Michigan Department of Transportation. This paper cites the environmental benefits of the proposed commuter rail service, and these benefits are considerable. The paper also mentions the wetlands at one of the prospective Hamburg stations. Based upon assumptions behind that environmental paper, e.g., short platforms which avoided wetlands, RLBA's strong recommendation that platforms be long enough for boarding and deboarding of all passenger railcars, and based upon other issues raised in this

³ Phase Three Report, "Detailed Analysis of the Selected Route", of the *Lansing to Detroit Passenger Rail Study* (July 2000), page 6.

RLBA study (e.g., insufficient parking, specific location of each station), RLBA suggests that another environmental paper may be required.

Station Planning: Access and Egress, Design Elements for Development

RLBA saw no plans for highway access to and egress from the stations, and no plans for bus lanes, or kiss and ride. These should be prepared and approved by the local traffic control authority and public works authority in each jurisdiction in which a station is to be located. It is important that the local traffic control and public works officials be aware of this planning so that they may insure that access and circulation needs are appropriately provided in the station planning. By the same token, it is recommended that those responsible for providing connecting transit service, such as bus service at the stations, be involved in the station planning process.

RLBA reviewed the generic station platform concept drawing, which is not deemed sufficient for the planning stage of this project. As indicated above, the ADA and train boarding issue must be addressed. The generic platform concept drawing must be adapted to each site and placed at a specific location at each site, so that planned new construction features will be seen in relation to the existing topography including drainage features and wetlands, if any, and in relation to pedestrian pathways between parking places and station platforms. Furthermore, it is recommended that walking distances, between parking and station platforms (and between bus and kiss and ride drop off points) be kept as short as possible. All these site-specific issues must be nailed down conceptually so that an environmental assessment may be performed with regard to each station where there is to be new construction, in particular, new construction outside of the existing railroad right of way.

By the same token, access to utilities, electricity and communications must be planned with specific reference to each station site. It appears that electrical power is available at or close to each station site, but specific coordination should be effected with power, utility and communications providers to insure there will be no surprises in the design phase.

Management and Control of Station Sites

Various commuter rail operations around the nation utilize different means of managing their station sites. Some perform this function centrally; others provide central guidance and specifications, and ask the local communities to develop, construct, operate and maintain the stations. The latter method perhaps has the advantage of the sense of "local ownership" and responsibility (and funding) for any given station.

Station maintenance and operations should be included in the overall station planning process, whether the stations are to be managed centrally, or by local communities. In either case standards for station maintenance should be drafted, and these will serve as a basis for planning the annual maintenance expenses.

Examples and Recommended Construction-Contracting Processes

There are two basic construction contracting processes, and variations on those two. Traditional U.S. practice has been to employ a formal design process (utilizing an architect/engineer firm), prepare plans and specifications (using the same firm), advertise for bids from construction contractors, accept the lowest responsive bid, and construct the facility. In this process, it is normal to engage the architect/engineer firm to perform construction management services, that is, supervise the execution of the construction contract to insure that the plans and specifications are followed. In recent decades, the alternative “design-build” process has gained stature. Instead of a two-step process, first design and then construct, design-build is a one-step process in which the client advertises a design-build “package” (detailed description of what is wanted), which is bid upon by a firm (or likely a combination of firms, or joint venture) which performs both the design and construction. It is important in this process that the client know exactly what is wanted, and provide the necessary degree of specificity in the documents which comprise the design-build package. Either process could be utilized to design and build the stations and parking facilities of the Ann Arbor-Howell commuter rail service.

Limited Resources and Community Needs

The RFP asks that the consultant describe processes to manage the interaction between project needs and community wants in light of limited resources for improvements. This is an area in which the consultant can recommend what is needed to attract riders and make the service successful. Ultimately the community must decide what it can afford. As already stated above, a successful transit service should not be parking-constrained. On the other hand, stations need not be luxurious, and there are commuter rail operations in which station platforms are constructed simply, in some cases without weather protection or other amenities. Outside of meeting necessary U.S. DOT ADA requirements, and station platform geometry requirements required by the railroad (e.g., horizontal and vertical distances between platform and track centerline and top of rail), the degree to which stations may be simply constructed is largely a local decision. Degree of protection from weather, lighting, etc., may be a local decision, based upon local preferences and requirements.

Maintenance Plan

A part of this Station Development subtask is to “provide a recommended station maintenance operations plan.”

Operations of commuter rail stations is relatively straightforward and simple. Commuters arrive in the morning by automobile, bus or other conveyance, or walk to the station. Those with cars park them. Commuters wait on the platform, and board the train when it arrives. Those without weekly or monthly passes either purchase tickets from a ticket vending machine on the platform, or purchase tickets from the conductor after boarding, depending upon the system in use. On the return trip, commuters de-

board at destination stations and depart by bus, auto, bicycle or on foot. Stations are not staffed. If desired, the WALLY Coalition may install a communications system to make loudspeaker announcements at stations (alternative: electronic message board), and/or to allow phone-in queries.

Maintenance of the station requires a plan, for example, for removal of ice and snow, and trash. Following is a recommended starting plan for operating and maintaining stations. This plan should be reviewed and revised, and details and specifics should be added, following station design.

Recommended Plan

1. General

Purpose. The purpose of this plan for operating and maintaining stations is to insure safe, effective and convenient use of commuter rail stations.

Updating and Revision. This plan should be appropriately expanded and revised in accordance with station design, and subsequent design changes, if any. This plan should be coordinated with and reflect the requirements of all pertinent local codes.

Features. This plan includes the following features safety and security, structural integrity, ADA provisions, electrical system, pavement and walkways, and preservation.

2. Inspections

Inspections are intended to assure compliance with design, and with the operations and maintenance plan. Following construction of each station (including parking, and access lanes for buses and “kiss and ride”), an inspection should be made to assure compliance with all design requirements.

During service life, periodic inspections should be made to insure proper functioning and preservation of all design features. Special attention should be given to safety and security, structural integrity and ADA (Americans with Disabilities Act) features. Periodic inspections should be scheduled so as to assure compliance with local codes. Special attention should be given to potential hazards, such as slippery walking surfaces, or incipient structural failure.

3. Snow and Ice Removal

Snow and ice removal must be performed so that stations, including parking and station access lanes, paths, stairs and ramps, are cleared of ice and snow prior to arrival of the first morning commuter. Snow and ice removal must be performed over the course of the day, where conditions require it.

4. Periodic Maintenance

Structural Integrity. Inspections (item 2 above) and/or local codes will provide the basis for periodic or ad hoc maintenance remedial actions.

Electrical System and Lighting. Likewise inspections and/or code requirements dictate electrical system maintenance. Lighting fixtures should be replaced when outages occur.

Drainage Facilities. Periodic inspection will determine the need to clean out culverts or otherwise improve drainage features.

Landscaping and grass. Depending upon the particular design at any given station, routine and periodic maintenance of landscaping and grounds is required – watering, fertilization, grass cutting and shrub pruning, leaf removal in the fall – in order to preserve the grounds surrounding the station platform, walkways, access roads and parking.

Station Platforms and Walkways. In addition to maintenance of structural integrity and the electrical lighting system, station platforms and the facilities on these platforms (communications, ticket-vending-machines, windscreens and shelters) require periodic inspection and maintenance to assure safety, security and preservation. Periodic painting may be required. Platforms, stairs and walkways should be designed to be non-slip, and non-slip surfaces should be preserved, and renovated as required. Trash must be removed periodically.

Parking and Access Roads. Maintenance of parking and access roads may include repair of potholes, re-painting of parking spaces and pedestrian crossings on automobile/bus access lanes, and periodic re-surfacing. Wayfinding signs may require re-painting or replacement.

Plans for Wayfinding Signs to/from the Stations

Obviously, it is important that prospective commuter rail patrons know how to get to their stations. This subject should figure importantly in the marketing and advertising of the service, and may include the preparation, publication, distribution and posting of maps. Local community traffic control authorities and public works official must be involved in the process of planning signage to direct motorists to stations. This is necessarily a local and site-specific function.

Wayfinding systems have been designed for a number of communities, including, in Michigan⁴:

Battle Creek
Chelsea

⁴ Much of this information on wayfinding was provided by Susan Pollay, Ann Arbor Downtown Development Authority.

Frankenmuth
Grand Rapids
Holland
Howell
Kalamazoo
Lansing
Petoskey
Royal Oak

Ann Arbor has a wayfinding program design in progress. The idea of a wayfinding system is to help visitors – drivers and pedestrians – find their way to the downtown and around the downtown, to key points of interest and to parking. Wayfinding signs are intended to be eye-catching and distinctive. Examples of wayfinding signs may be seen on the Ann Arbor Downtown Development Authority website, www.a2dda.org (click on current projects, downtown wayfinding).

Wayfinding signs should be placed on roads near stations, near bus stops that connect to stations, and at other locations chosen by local authorities for their value in encouraging people to use commuter rail and in showing people how to reach the stations.

List of Remaining Steps

Work on this subtask, as described above, indicates that the following areas require additional investigation or other effort to complete the planning phase of this project.

- U.S. DOT ADA requirements
- Parking requirements at each station
- Station planning with regard to access and egress, transit interface, kiss and ride
- NEPA process

It is not known how long it will require to determine the extent to which the Coalition must observe U.S. DOT ADA requirements. Perhaps one-half year, or longer, to obtain a decision. On top of that at least several months may be required to make the appropriate planning adjustments.

Parking requirements at each station are recommended above; it is now appropriate for the Coalition to determine how to meet them, whether by acquisition of land, or lease, or some other arrangement.

Approximately one year is the estimated time required for the initial NEPA process to determine whether an environmental impact statement must be prepared, or whether lesser action will suffice.

Station planning with regard to access/egress, local transit service, etc., could be accomplished in a few months.

Considering the foregoing, the critical path to initiation of service appears to lie through the NEPA process, but the NEPA process cannot be initiated until the other three issues have been resolved. It is recommended that the Coalition immediately apply to the Regional Federal Transit Administration Office for an exception to the full-platform-boarding U.S. DOT ADA policy, based upon fact that the passenger railcars have already been acquired. At the same time, Coalition actions with regard to parking requirements, and other station planning issues, may commence.

Conclusions

Station planning issues require additional effort prior to initiation of design.

The U.S. Department of Transportation (DOT) policy with regard to boarding of disabled persons must be resolved as soon as possible.

Whether or not the Wally Coalition obtains a waiver of U.S. DOT policy, RLBA strongly recommends full-train-length boarding and deboarding. For five-passenger-car trains, this means platforms must be at least 450 feet in length.

Adequacy of parking and other station planning issues also require resolution. RLBA strongly recommends that parking be available, close to the station platform (short walking distance), for all who desire to drive their automobiles to the stations in order to use the commuter rail service. Where a developer has said he will provide parking space and lease it, lease costs need to be added to annual operating costs.

When additional planning activities have been completed, the NEPA process must be followed to determine the extent of environmental analysis required, if federal funding is to be used in the project. Even if federal funds are not to be used, station design should not be initiated until decisions are made with regard to exact station locations, and with regard to the various issues discussed in this paper.

Subtask 2.3. Track, Signal and Grade Crossing

Requirement

The contractor shall review the railroad corridor's safety and ability to reliably convey passengers. The contractor shall review the MDOT estimate for the track, signal and grade crossing infrastructure capital improvement program. The contractor shall make a determination of the adequacy of coordination with adjoining railroad operators: the CSX railroad and the Ann Arbor Railroad. The contractor shall also provide examples of safety and security plans needed to assure public and passenger safety and make a recommendation for the Wally safety plan.

Discussion

Materials Reviewed

Regarding track, signal and grade crossing capital costs, RLBA initially reviewed the following WALLY Coalition reports and documents:

- Pertinent portions of the Wally North South Commuter Rail Service Business Plan dated February, 2008;
- Rail Infrastructure Improvement Preliminary Estimate, Ann Arbor to Howell dated February 21, 2008;
- Warning Device Upgrades spreadsheet detailing an at-grade, highway-rail crossing inventory and potential upgrade costs;
- Budgetary signal letter from GE Transportation Systems Global Signaling, LLC to Michigan Department of Transportation (MDOT) dated February 28, 2008 and
- Other background documents including a brief synopsis of the proposed commuter rail service.

Terri Blackmore requested an early estimate of costs; this estimate was provided by RLBA in an interim report, "Preliminary Review of Proposed Operating and Capital Costs", submitted on April 30, 2008.

Assumptions were made by RLBA in developing preliminary review figures. Some of these assumptions were later changed.

Later, following the May 1 and 2, 2008, on-site inspection, described below, additional background materials and information sources were provided by either the WALLY Coalition, MDOT or Great Lakes Central Railroad (GLC) including:

- Great Lakes Central Railroad Time Table Number 1, effective date April 1, 2008;
- MDOT Plans of Proposed Railroad Rehabilitation, dated January 1996;
- Track Geometry Inspection Report, Durand to Osmer, Michigan, dated October 10, 2007, and

- Miscellaneous cost figures and breakdowns of actual track work performed by contractors for MDOT.

Site Visits

On May 1 and 2, 2008, RLBA's Ken Withers participated in initial meetings with the WALLY Coalition. On May 1, RLBA's Walt Schuchmann and Gene Davis, P.E., spot checked track infrastructure at various locations along the corridor. On May 2, Messrs. Schuchmann and Davis participated in a hyrail inspection of the corridor, with GLC representatives Mike Bagwell (President) and Tom Springsdorf (Vice President-Transportation), between milepost (MP) 74.44 near Howell and MP 47.50 near Plymouth Road in Ann Arbor. Messrs. Withers, Schuchmann and Davis all participated in the May 2 kickoff meeting with the Technical Steering Committee.

Following are comments relating to infrastructure, based on those meetings and the hyrail inspection:

Meetings

The initial meeting brought out some important points concerning the existing track infrastructure and train operations:

- GLC currently operates a daily train in each direction over the corridor.
- GLC interchanges with CSX just south of Howell at Anne Pere.
- GLC believes that its customers could be served at night to facilitate commuter rail operations.
- MDOT owns the line while GLC is responsible for train operation and maintenance-of-way (MOW) activities.
- GLC is the operator in perpetuity with no defined time limits.
- Most switches are #10 hand throw.
- CSX crossing at Anne Pere is an automatic interlocking (first come, first served) which experiences between six and ten CSX trains in a 24 hour period.
- No bridge work is required on the line.
- Four culverts need repair on the south end of the corridor.
- GLC averages about five to ten broken rails per year.
- GLC currently uses a twenty year timber and surfacing (T&S) cycle.
- At-grade highway-rail crossing work is averaging about \$700 per track foot (installed).
- Stations likely will consist of a modest platform, small canopy, parking and some lighting.

Hyrail Inspection Trip

The MDOT-furnished track plans and GLC-furnished timetable were checked against physical characteristics found in the field during the hyrail inspection trip. As previously

stated, the inspection started at West Street (MP 74.1), just north of the old train depot in Howell, and proceeded southward toward Ann Arbor. Some pertinent track information and characteristics are included below under “Current Field Conditions”.

Infrastructure Ability to Convey Passengers

In order for any potential commuter rail service to be successful, the individual automobile drivers must be induced to leave their cars and utilize transit services. One of the underlying principles of this assumption is that travel times must be competitive with or beat automobile trip times. To accomplish that goal, track speed is assumed to reach up to 60 miles per hour (mph). While a lower speed of between 40 and 45 mph could also be achieved, RLBA believes that to be time-competitive with the automobile, commuter trains should operate at speeds up to at least 60 mph. Discussed below is a review of current field conditions and proposed infrastructure improvements deemed necessary to support 60 mph operations.

Current Field Conditions

Based upon documentation and hyrail inspection, the following observations are stated:

- Right-of-Way (ROW) width ranges between 66 and 100 feet.
- Rail weights include 100, 110, 112 and 115 pounds per yard with the predominate weight being 112.
- Overall corridor tie conditions appear good. This is confirmed through review of the latest 2007 Geometry Inspection Report revealing only one short length of wide gage (eleven feet) in the corridor.
- No significant bridge work is required on the seven bridges (according to both MDOT and GLC).
- Sidings include Howell, Anne Pere, Chilson, Whitmore Lake and Osmer; the last three sidings named are used for passing and running around the freight train.
- Maximum main track timetable speed is 40 mph with the following exceptions:
 - 1) Curve at MP 73.8 – ten (10) mph.
 - 2) CSX crossing between MP 72.2 and 71.8 – ten (10) mph.
 - 3) Curve between MP 62.5 and 62.2 – thirty (30) mph.
- Maximum curvature is at MP 73.8 (sixteen degrees and 35 minutes) and the next stiffest curve is at MP 62.3 (six degrees and zero minutes).
- Maximum gradient is 1.11 percent near Ann Arbor.
- Overall ride quality over the corridor was good (during the 2007 Geometry Inspection a total of eighteen ride quality defects were noted, all of which appeared to have since been corrected).
- There are 34 public (both passive and active protection) and eleven private at-grade highway-rail crossings.

RLBA noted during the hyrail inspection that the GLC rail corridor is well maintained.

Proposed Infrastructure Improvements

Achieving a main track passenger speed of 60 mph is likely key to making WALLY service a successful operation. Therefore the following infrastructure improvements are deemed appropriate. During discussion with MDOT and GLC, it was stated that no bridge repairs are necessary.

New Track Construction

Overnight and mid-day layover facilities are proposed as the only new construction projects and are required to facilitate train storage, light servicing and cleaning of rail equipment. While initial service levels would likely require only about 600-foot-long tracks at an overnight layover yard to accommodate a single trainset consisting of one locomotive and five cars, RLBA increased track lengths to 1,000 feet to accommodate future expansion. The overnight layover yard and facility would be constructed near Oak Grove and consist of five 1,000-foot-long tracks along with a 1,000 foot long lead completely off of the main track. Four associated hand-throw turnouts connecting the tracks with the lead as well as one power main track turnout are proposed. In addition to sufficient track to accommodate five trainsets, support facilities would consist of:

- 480 volt standby power (required to maintain train heat and cooling and operate lights and doors without running the train's locomotive,
- A crew and maintenance building,
- Fencing and security,
- Lighting,
- Locomotive drip pans,
- The ability to change around equipment without entering main track, and
- Roadway vehicle access to all tracks.

Additionally, a mid-day layover track is proposed to be constructed at the east end of Osmer Siding (see photo at top of next page) consisting of a hand-throw switch (off of the siding) providing access to a single 5,000 foot side track. Standby power would be supplied at this location as well. Access to this layover track would be by gravel road.



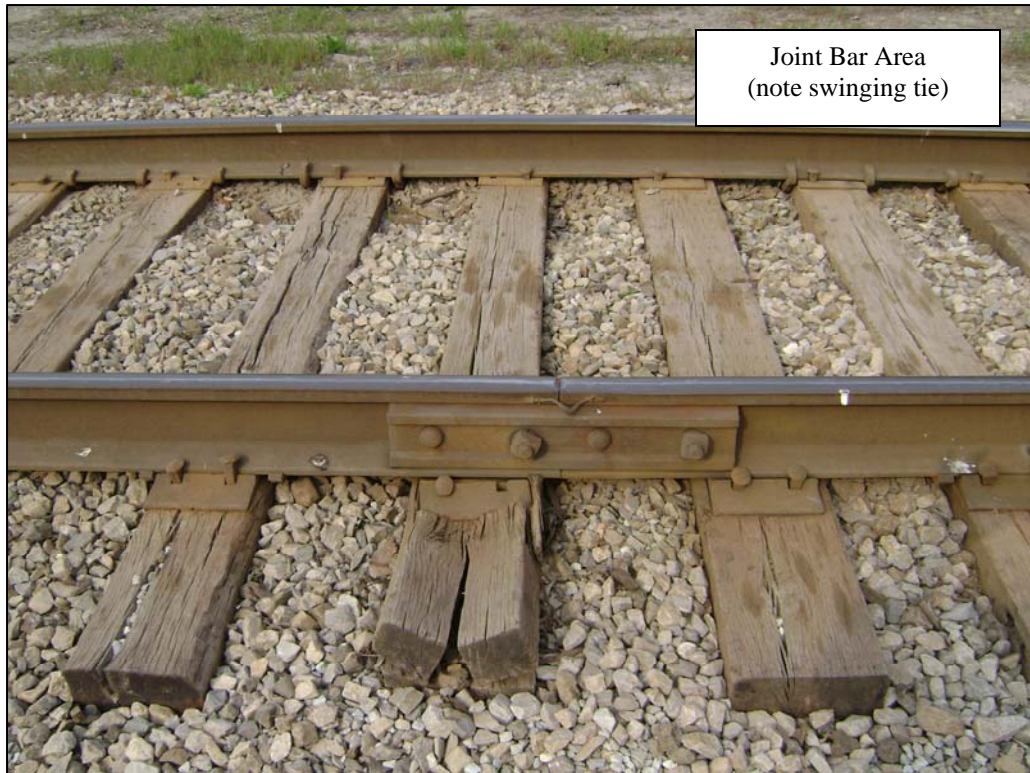
For a complete breakdown of associated capital costs, see the next section which is detailed even further in Appendix A.

Rail

As previously stated, four rail weights currently exist in the corridor with the predominant weight being 112 pounds per yard. Conversations with MDOT and GLC confirmed RLBA belief that new replacement rail would likely be 115 pounds per yard or greater. GLC confirmed that it had not performed an internal rail flaw detection test within recent history and agrees with the RLBA assertion that a thorough test must be performed to determine how much rail needs to be replaced (if any) before passenger operations begin. RLBA estimates a lump sum line item for rail defect detection testing and based upon discussion with GLC regarding annual broken rail counts, estimates the amount of replacement rail at ten percent of main track and five percent of side track.

Additionally, RLBA assumes replacing all 0.3 miles of 100 pounds per yard rail located west of Whitmore Lake Siding.

Lastly, after rail testing and initial rail replacement, RLBA assumes flash-butt welding the entire corridor to enhance ride quality and reduce joint problems, such as that seen in the photo to the right. While portions of the rail are quite old, without initial wholesale rail replacement (and significantly higher initial capital costs) with continuous



welded rail (CWR), the best method to improve ride quality is through elimination of joints. Costs are estimated in the next section and detailed in Appendix A.

Track Rehabilitation (T&S)

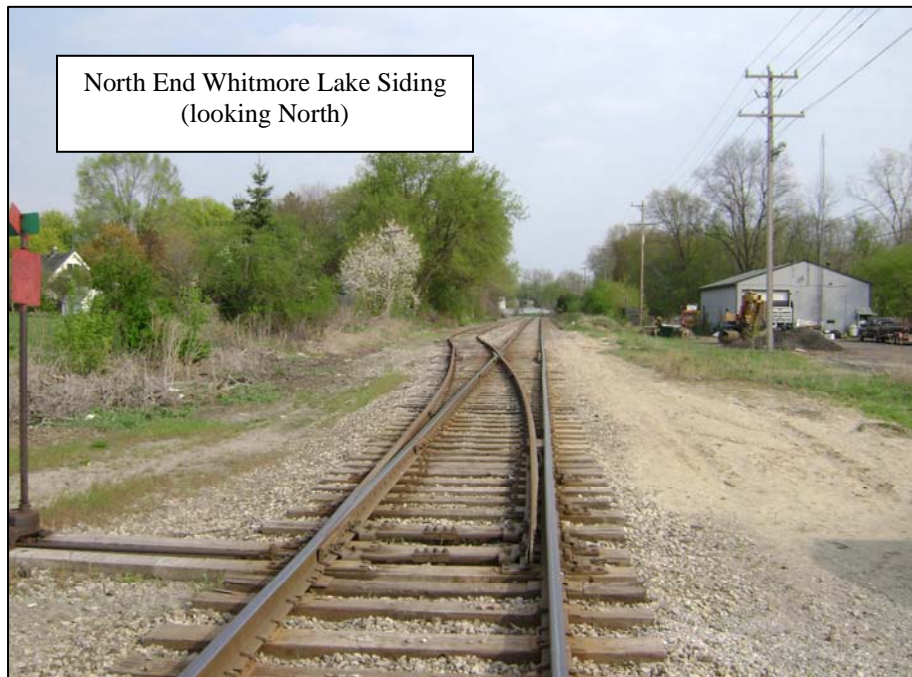
While RLBA was impressed with overall track condition, conversation with GLC representatives confirmed RLBA's initial assumption that some level of initial timber and surfacing (T&S) work will be required. That proposed T&S cycle would take care of situations such as those seen in the photo above. After all rail work is completed, RLBA assumes about 25 percent of the entire corridor or just under seven miles would receive a T&S cycle consisting of at least 600 ties per mile (out of about 3,200 ties in each mile) along with 1,000 tons of ballast per mile, for surfacing the track.

Additionally, a similar T&S cycle is assume to be completed on each of three passing sidings (Chilson, Whitmore Lake and Osmer) to support safe freight and passenger meets if any were to occur. Given that none are foreseen during the initial service, this line item could be adjusted or postponed to a later date when service frequencies change.

The remaining approximately 20.2 miles of main track would receive a surfacing only maintenance cycle, which in conjunction with the joint elimination, should provide good ride quality.

Turnouts

RLBA believes there are sixteen existing main track turnouts, such as the north end of Whitmore Lake Siding (see photo). RLBA estimates about 25 percent of the existing



main track turnouts would warrant replacement or renewal in conjunction with rail replacement and T&S work. Additionally, one new hand-thrown side track turnout would be constructed, providing access to the proposed mid-day layover track just off of the east end of Osmer Siding. Estimated capital costs are shown in the next section and

expanded in Appendix A.

Culverts

GLC representatives informed RLBA that, at the time of the hyrail inspection trip, four culverts needed repair or replacement. To account for other potential repairs before startup of passenger rail service, RLBA estimates that about one culvert every five miles would be replaced. Cost estimates in the next section reflect these assumptions.

Cost estimates reflect replacement of existing culverts (whatever the type) with a bituminous-coated corrugated metal pipe (CMP).

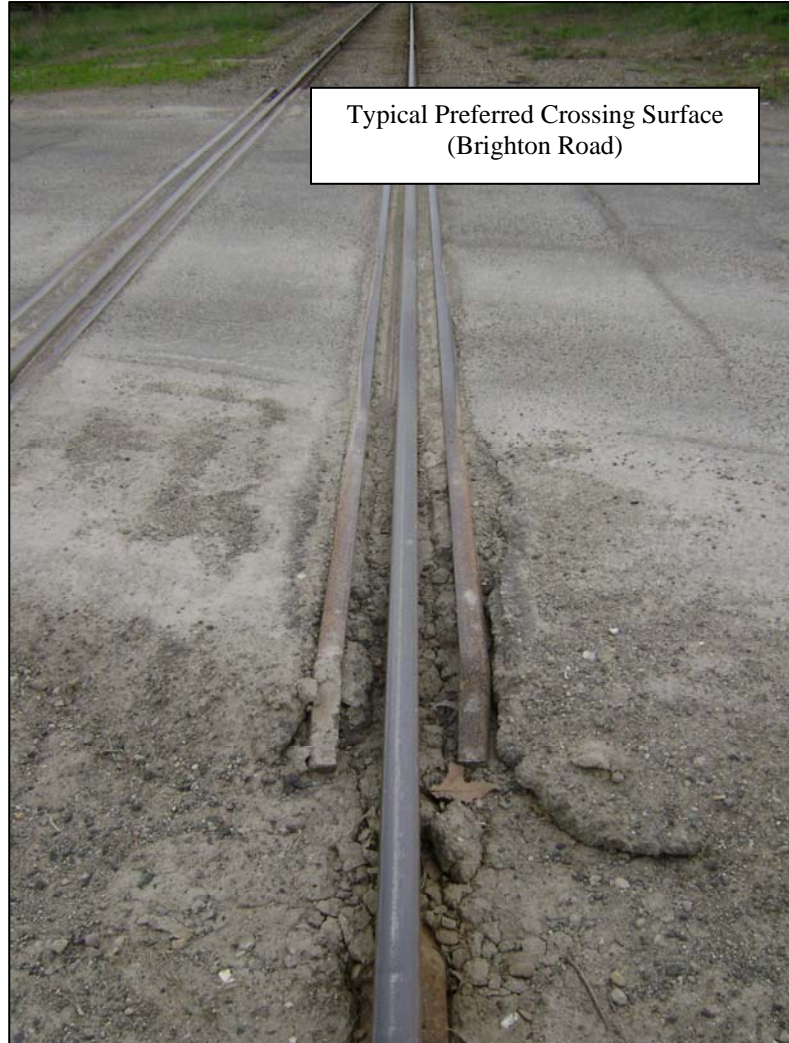
At-Grade, Highway-Rail Crossings

Each of the 34 public and thirteen private at-grade highway-rail crossing surfaces are assumed to be renewed in conjunction with either rail, T&S or surfacing program work. During discussions with GLC representatives, it was stated that GLC prefers asphalt filled, rail-guarded crossings such as that seen in the photo at top of next page. Cost estimates in the next section reflect unit costs provided to RLBA by MDOT and reviewed by GLC.

Signals

Currently the only signaled portion of the GLC corridor is the CSX crossing at Ann Pere, on which CSX provides the maintenance both of the diamond and the signal system allowing access to the interlocking. RLBA reviewed and utilized the initial GE Transportation Systems Global Signaling, LLC budgetary proposal dated February 28, 2008, in its preliminary capital cost estimate. After further discussion, RLBA believes that in order to provide an automobile competitive service, a complete Centralized Traffic Control (CTC) system is warranted, and estimates capital costs associated with that system.

RLBA recommends that a traffic control signal system be installed on the trackage to be used by the WALLY service. RLBA has made the same recommendation to its prior commuter rail clients, and almost all new services have been implemented on signaled trackage. Signal systems -- whether Incremental Train Control Systems (ITCS) as proposed by GE Transportation Systems Global Signaling, LLC (GE) or conventional CTC -- increase the level of safety of train operations.



RLBA reviewed the February 28, 2008, ITCS Proposal submitted by GE. For comparison purposes, RLBA developed a preliminary cost estimate of a conventional CTC system with associated communications equipment. RLBA's estimate of the CTC system cost is \$4.4 million for signal equipment and \$1.4 million for communications equipment, a total of \$5.8 million. The quoted budgetary price of the ITCS system is \$4.9 million based upon the assumption of using existing communications towers, which in fact do not exist on the GLC. Adding the same \$1.4 million communications estimate would bring the ITCS total cost to \$6.3 million. The two alternatives are quite close in cost; clearly the technology which best suits WALLY service should be the one selected.

RLBA uses conventional CTC system cost in developing the capital budget. More information should be developed on both alternatives. The brief GE proposal does not make a case that ITCS is the appropriate technology over a short segment of presently unsignalled railroad with light density passenger and freight operations. RLBA does not rule out the ITCS alternative; it simply notes that a sufficient argument has not yet been made to depart from standard and proven practice.

Stations

Based upon the discussion in Subtask 2.2., Station Development, platforms only (Howell, Chilson, Whitmore Lake and Plymouth Road only) would cost approximately \$1.4 million. Station parking -- considering the deficit at Chilson only (Howell and Whitmore Lake are developer-provided parking, Plymouth Road has no parking) -- require another estimated \$0.875 million. Additional station improvements approaching an estimated \$2.0 million include:

- access roads;
- bus lanes;
- “kiss and ride” lanes;
- non-motorized paths (pedestrian and bicycle) providing access between city streets and/or parking areas to loading platforms and
- platform amenities such as shelters, windscreens, communications system, ticket vending machines and security lighting.

Thus total station capital costs, at this point in conceptual design, is roughly estimated at about \$4.3 million.

The above station cost estimate does not include potential environmental mitigations, or other things that may turn up when the Wally Coalition makes decisions which must be made prior to final design. Also, these estimates do not include the annual lease costs for parking where a church (at Chilson) and developers (at Howell and Whitmore Lake) are expected to provide the parking.

Other

RLBA recognizes there are missing from the WALLY Business Plan certain capital cost items such as ticket vending machines, and buses required to transport commuter rail customers between the Ann Arbor station location and downtown Ann Arbor. RLBA has estimated these costs.

Contingency

The largest unknowns are associated with the rail and signal categories since no internal rail flaw detection tests have been accomplished recently and all signal work needs to be site specific. Signal work generally constitutes a large portion of any

project when a new signal system is installed. Because of these unknowns and based upon discussion with GLC representatives, RLBA estimates a twenty percent contingency factor. As more detailed information becomes available, the contingency factor may be refined.

Capital Cost Estimate Review

Another portion of this task was to review the estimated capital costs associated with passenger rail service implementation both as originally submitted for review by the WALLY Coalition as well as those developed by RLBA. Table 1 below illustrates those estimated capital costs.

What is clear is the absence of certain cost items on the WALLY side. RLBA is confident regarding its recommendations regarding what should be included to implement a quality passenger rail service. RLBA has discussed its rationale for a 20 percent contingency.

Many of the unit prices that RLBA utilized in its estimates are those supplied by MDOT and agreed to by GLC.

Projected Capital Costs
Between Howell and Ann Arbor, MI
Original and Revised
(Thousands of Dollars)

| Line Item | Wally Coalition | RLBA | Variance |
|---------------------------------------|-----------------|-----------------|-----------------|
| New Construction (Layover Facilities) | - | \$2,560 | \$2,560 |
| Rail | - | 3,111 | 3,111 |
| Track Rehabilitation | \$564 | 1,562 | 998 |
| Turnouts | - | 490 | 490 |
| Culverts | - | 45 | 45 |
| At-grade, highway-rail crossings | - | 1,595 | 1,595 |
| Signals | 4,891 | 9,025 | 4,134 |
| Stations | 1,685 | 4,300 | 2,615 |
| Other | <u>30</u> | <u>4,350</u> | <u>3,770</u> |
| Subtotal | 7,170 | 27,038 | 19,318 |
| Contingency (20%) | - | <u>5,408</u> | <u>4,775</u> |
| Total Capital Expenses | \$7,170 | \$32,446 | \$24,093 |

Source: RLBA Appendix X, WALLY Business Plan and GE Estimate.

Adjoining Railroad Coordination

It is important that freight railroads' interchange activities, and the infrastructure necessary to accomplish these activities, be considered. GLC stated that its customers

(most, if not all) could be switched at night. Thus there would be no conflict with commuter rail service.

No physical change is expected at Ann Pere, where GLC interchanges with CSX. The only infrastructure change at Osmer Siding, where GLC interchanges with the AARR, is new construction of a siding turnout, providing access to a single 5,000 foot long track for mid-day rail car storage.

If a new CTC system is installed, freight switching activities may have to be modified somewhat. This may require coordination with CSX and AARR.

Examples and Recommended Safety and Security Plans

Increased rail activity resulting from new commuter rail service will result in additional responsibilities for both GLC and MDOT. At present GLC, with MDOT assistance, is maintaining its track infrastructure to Federal Railroad Administration (FRA) Class 3 standards. Since Class 3 standards support passenger speeds up to 60 mph, little should change from a maintenance point of view. The track structure likely will be maintained to the upper end of FRA Class 3 standards, with some repairs performed to improve ride quality for passengers, such as flash-butt welding to eliminate joints.

Safety Plan

From a public safety perspective, informing the public of the startup of commuter service likely would include statements that trains will be traveling faster in the corridor as well as more frequently. Information booths at community events immediately before startup of service would be opportunities to educate the public regarding these increased frequencies and greater speed, in particular the increased risk at at-grade, highway-rail crossings, and dangers associated with trespassing on the railroad right-of-way. Scheduling some Operation Lifesaver presentations would be in order if qualified presenters were available.

From a railroad perspective, GLC likely would need to develop response action plans to commuter rail crisis situations such as a crossing collision, derailment or act of violence on the train while in service, as well as other possible scenarios. Before service initiation, GLC and MDOT should consider possible scenarios and utilize state and local policies and emergency response capabilities in order to plan responses.

Track infrastructure inspection would comply with FRA Track Safety Standards Part 213, Subpart F – Inspection for the appropriate track class. Subset 213.233 states that Class 3 track inspection frequency would be

“Weekly with at least 3 calendar days interval between inspections, or before use, if the track is used less than once a week, or twice weekly with at least 1 calendar day interval between inspections, if the track carries passenger trains or more than 10 million gross tons of traffic during the preceding calendar year.”

Along with regular inspections, a program maintenance cycle adjusted to the new level of service over the corridor (in addition to the normal routine maintenance required to maintain the track) is a necessity.

Regular FRA-required signal inspections and tests with regard to turnouts, at-grade highway-rail crossings, and signal components, would be complied with as well as any specific state-required inspections.

Security Plan

With the new construction of both the overnight and mid-day layover facilities, some additional security measures may be necessary for both the passenger rail cars and the employees servicing those engines and railcars. GLC (and MDOT) likely would need to contact the local police departments informing them of the locations of both facilities and that cars would be stored in those areas as well as the fact that employees would be servicing the engines and cars in those same areas. It may be appropriate to arrange for local law enforcement authorities to initiate routine patrols and develop response scenarios. The Wally Coalition and/or GLC should provide local law enforcement authorities with contact numbers in case of emergency, suspicious actions and/or reports of vandalism or trespassing.

Additional Work Areas

This section identifies additional work areas deemed necessary to complete or refine commuter rail planning.

As stated above, rail flaw detection test should be arranged, in order to determine replacement requirements and costs.

Time required to order necessary materials to accomplish the initial rail flaw detection test, and schedule the actual test, is estimated at 60 days, assuming that contractors such as Sperry or Holland could work GLC into their schedules. The actual test would require one or two days. A longer period would be required to make the necessary rail replacements.

Another critical next step is to work with CSX to determine how to integrate the proposed signal system with CSX's interlocking at Ann Pere. It is very important to automobile-competitive commuter rail service that there are not delays at this interlocking.

Working to integrate the proposed CTC system with the existing CSX system at Ann Pere will likely be more complicated and time-consuming than performing the initial rail flaw detection test. After initial discussions with CSX, the type of CTC system for WALLY will need to be decided, before going back to CSX to coordinate its installation. Considering the above, the critical path to initiation of service appears to lie through

developing the signal system. It is recommended that the Coalition contact CSX soon regarding signal changes associated with initiating commuter rail service.

Service Initiation Critical Path

To complete the implementation of commuter rail service on the corridor, certain track, and signal related items can be completed sequentially, while others must be accomplished in a progressive order. As one part of the total project critical path spelled out in the Final Report, following is a step-by-step sequence focusing strictly on track, signal and grade crossing infrastructure that is intended to accomplish implementation with minimal confusion, additional work and unnecessary delays.

1. Create authority.
2. Perform preliminary engineering (track – new construction and signal system).
3. Contact CSX about integrating service with Ann Pere crossing (simultaneous with 1).
4. Procure replacement rail for initial internal rail flaw detection test and schedule initial test (simultaneous with 1).
5. Apply for construction and environmental permits.
6. Complete engineering design.
7. Refine upgrade materials (track structure) and signal material quantities.
8. Order all necessary track and signal materials (includes grade crossings).
9. Procure ticket vending machines.
10. Put out request for services bid (contract work).
11. Award contract and begin construction.
12. Construct sidings and stations.
13. Complete construction contracts.

RLBA believes that all track and signal construction-related activities can easily be accomplished within the span of one calendar year if agreement can be reached with CSX over integration with the existing Ann Pere crossing. Total project timing could approach between eighteen months and two years for the entire project if not put on a fast track.

Conclusions

RLBA estimates capital expenses totaling about \$32.4 million to implement automobile-competitive commuter rail service.

Subtask 2.4. Ridership Estimates

Requirement

Surveys have been completed by the University of Michigan, Washtenaw County, the Ann Arbor Downtown Development Authority (DDA) and the Chambers of Ann Arbor, Brighton and Howell that were used to estimate ridership. Data from the Census Transportation Planning Package has also been used to assist with the development of the ridership estimates. The contractor shall review all of this data and make an assessment of the reasonableness of the estimates and the rates of annual increase.

Discussion

Ridership is perhaps the most important single criterion in evaluating the feasibility of commuter rail service. Commuter rail service may produce several benefits such as mobility enhancement, highway congestion reduction, reduction in fuel consumption and air quality improvement. These benefits will not be attained unless the service attracts sufficient passengers to make an impact. Ridership is also critical to result in cost-effective service.

The purpose of this task is to assess the reasonableness of Wally Coalition ridership estimates. The Coalition's ridership estimates are based on responses to surveys conducted by the University of Michigan, Washtenaw County, Ann Arbor DDA and the Chambers of Commerce in Ann Arbor, Brighton and Howell. Population and employment data in Washtenaw and Livingston Counties also were used in the reasonableness estimations. In the following discussion it is important to keep in mind that "daily ridership" refers to daily weekday service since no service is contemplated on the weekends except for possible football excursions.

The single largest group of passengers expected on the Wally commuter rail line are daily commuters headed to the University of Michigan (including its medical center) in Ann Arbor. The University employs over 3,700 faculty and staff in the potential service area, not including students. Based on its review of the survey results, RLBA estimates an average daily University-related ridership of 2,200 (1,100 roundtrips) per weekday. RLBA's adjustment is based upon survey responses which said they would use the service on different numbers of days per week ranging from five to only a single day per week. (It is understood that the revenue from monthly passes will not change, no matter how many trips are taken.) From this point on ridership will be referred to in terms of single rides and not roundtrips which is industry practice.

Roughly 60 percent of projected University riders are staff at the medical center, which operates year round. The remainder are mostly staff which work twelve months each year as opposed to faculty which don't work year round. With that in mind, ridership could be higher during the normal school year if faculty and students that were not represented fully in the survey responses use the service.

The next two largest groups of potential riders were identified from a survey conducted by the Ann Arbor DDA, of parking permit holders, and an employee survey conducted by the Washtenaw County Government. Among Ann Arbor DDA parking permit holders, the survey showed that the average daily ridership would be 202 trips. The survey of Washtenaw County employees showed an average daily ridership of 82.

The Ann Arbor Chamber of Commerce survey was not included in the RLBA ridership estimate because of potential overlap with the other surveys. The Howell Chamber of Commerce survey was excluded because it was based on reverse commute train service which is not envisioned at the initial stage of Wally development. The Brighton Chamber of Commerce survey was not considered since it was deemed too general to provide a reasonable estimation of ridership.

RLBA estimated ridership from three other employers that were not included in the Coalition's surveys, but were interested parties in the formation of WALLY: the local Environmental Protection Agency office, St. Joseph Mercy Hospital and Washtenaw Community College. With roughly 4,750 employees at these three entities, RLBA estimates the average daily ridership at 194 trips.

On any given day, the passenger load may be higher or lower than the average daily ridership.

Special event ridership, such as travel to University of Michigan home football games, may be an added bonus, in particular if access is gained, for passenger trains, to the Ann Arbor Railroad track through Ann Arbor. In Iowa, rail travel to football games has proven to be a "winner".

In conjunction with implementation of new commuter rail service, RLBA recommends robust and imaginative efforts to advertise and promote the new service. This may be done in a number of ways. One way is to schedule special orientations at important downtown Ann Arbor destinations. Obviously, University of Michigan (including all its medical center and other campuses and work locations) is a prime target. Orientations should likewise be scheduled with other significant employers. The orientations should be multiple and arranged to encourage maximum attendance. Other ways to advertise and promote include television, radio, organization websites, etc.

Conclusions

RLBA estimates the average number of roundtrips at 1,300 per weekday as compared to the Wally estimate of 1,688 per weekday. The Wally Coalition estimated that 200 roundtrips a day would be "Special Riders" or non-commuter round trips. RLBA believes that since in the current plan there is no mid-day, night or weekend service, these non-commuter trips should not be included in ridership estimates, in order to be conservative. RLBA agrees that Wally should try to attract riders from the non-commuter market. However, average daily ridership of 2,600 is considered a reasonable level of starting ridership for a new service.

The Wally Coalition estimated roundtrip ridership per station as follows: Howell, 525; Chilson/Brighton, 306; and Whitmore Lake, 656. RLBA analyzed the population in the areas surrounding the proposed stations and used that data to associate ridership with stations. RLBA estimates the roundtrip ridership as follows: Howell, 350; Chilson/Brighton, 390; and Whitmore Lake, 560.

Growth in ridership over the first five years of operation was estimated at three percent per year by the Wally Coalition. In the same time period, the population and employment in the Wally service area is expected to increase by only two percent. However, factors that make commuter driving increasingly onerous, such as increasing fuel cost and highway congestion, along with provision of reliable, high quality service, make Wally's growth forecast reasonable.

RLBA believes that the surveying done up to this point has established a good and reasonable estimate of potential ridership on the Wally service. A more in-depth analysis of ridership is suggested in order to introduce travel time in the survey and to establish per station ridership. Surveys performed to date do not include an estimate of the total travel time from origin station to the destination. Total travel time may have an appreciable effect on ridership. When the survey results are calculated, the average daily ridership at each station should be determined, from the individual responses instead of estimating the breakdown in ridership between stations based on population. An in-depth analysis would, however, be time-consuming, and the Wally Coalition may be satisfied with the current basis for ridership.

2.5. Finance and Administration

Requirement

The contractor shall review (not a legal review) the draft articles of incorporation and bylaws for the rail authority. The contractor shall provide a recommendation regarding the timing and appropriateness of an authority's formation.

The contractor shall identify and provide examples of operating and access agreements that may be needed with GLCRR, AARR, CSX Railroad and station property owners. The contractor is not expected to review the agreement between the authority and MDOT.

The contractor shall identify and provide examples of the program management necessary to guide station planning, design and construction activities. The contractor shall recommend an organizational structure for business operations. The contractor shall make a recommendation on ticket sales systems, cash handling and management. The contractor shall recommend staffing plans and staffing levels as well as personnel qualifications. The contractor shall review the efforts to date and recommend a transition to ongoing operating service.

Discussion

RLBA has reviewed the articles of incorporation. They appear to be appropriate to establish and operate commuter rail service. Regarding timing of the authority's formation, RLBA believes that the authority should be formed allowing sufficient time in advance of commuter rail operations for the authority to establish a budget, and arrange for designation and training of staff to accomplish necessary administrative and operating functions to support the commuter rail operation. The exact date would depend on local policies and time requirements, for example, hiring of staff, whether in-house or by contract. A Wally Coalition official recommends formation of the authority sooner rather than later, in order to execute the various implementation actions.

RLBA is providing a copy of a Purchase of Service Agreement between Metra and BNSF. This agreement attached as Appendix A will serve as an example of the types of agreements Wally will need with its chosen service provider/railroad(s).

Identification and examples of program management necessary to guide station planning, design and construction activities is contained in the Subtask 2.2 report, Station Development.

RLBA suggests the following organizational structure:

- Executive Director

- Manager of Operations
 - Train Operations
 - Bus Operations
- Manager of Finance and Administration
 - Ticketing
 - Accounting
 - Information Technology
- Manager of Planning and Programming
 - Capital Projects
 - Government Relations
 - Public Affairs
- Manager of Customer Service and Marketing
 - Marketing and Advertising
 - Special Trains, Events and Group Travel
 - Public Education and Surveys

These are functions, not necessarily staff positions. Indeed, RLBA recommends minimum staff (to keep expenses reasonable) consistent with effective discharge of the functions.

In this organizational structure the Executive Director would report to the Wally Board of Directors. Most of the other tasks in the operation of Wally commuter rail service would be divided among four functional areas with a manager of each (or manager(s) of more than one functional area) reporting to the Executive Director.

RLBA recommends the use of Automated ticket vending machine (TVM) to sell single ride tickets at stations. The use of TVMs reduces labor cost by reducing staff requirements to sell tickets on trains while also removing cash-handling responsibilities from conductors and/or other on-board staff. Currently Nashville's Music City Star uses TVMs to sell only single ride tickets at stations. The Star prices all single ride tickets at TVMs at all stations the same, at \$5.00. This simplifies the TVM installation by allowing all machines to be the same in design and programming. Also the machines take credit cards, but only \$5 and \$20 bills. The Music City Star also offers about a dozen locations that sell monthly passes, ten-ride and single ride tickets. These locations include the local transit agency main office, city halls and numerous grocery stores. Another labor saving procedure would be to employ random inspection of tickets instead of having a conductor and/or assistant conductor punch, collect or inspect all passenger tickets. Under this system tickets are checked at random by roving inspectors. Monthly pass users must have a valid pass dated for the current month. Single ride and 10-ride ticket users must produce a ticket that has been validated for the date and time which they are riding. TVMs can perform this ticket validation function. How the Wally ticketing system should integrate with AATA buses is discussed in Task 2.6, Customer Service and Bus Interface.

Conclusions

Transition to implementation of commuter rail service would include the following:

- Establishment of an authority to manage the service
- Formation of this authority in time to arrange staffing and training
- Execution of operating and access agreement with the GLCRR
- Execution of agreement with CSX regarding priority dispatch through the Ann Pere diamond
- Execution of an agreement with Ann Arbor Railroad prior to use of that railroad's right of way
- Decision regarding, and implementation of, fare system

Subtask 2.6. Customer Service and Bus Interface

Requirement

The contractor shall review the proposed connecting bus schedule. The contractor shall review the marketing program and materials that exist and identify what is missing. The contractor shall recommend options for fare collection systems that can coordinate fare revenue collection with AATA and LETS (the Washtenaw and Livingston County Transit Authorities). The contractor shall provide examples of systems to capture and address customer concerns with consideration of Internet-based systems.

Discussion

Connecting Bus Routes

RLBA has reviewed the five proposed connecting bus routes radiating from the Plymouth Road Station. No other potential routes were brought forward during the course of this study. RLBA discussed the routes with Mr. G. Christopher White of the Ann Arbor Transportation Authority. Mr. White designed these routes in a preliminary fashion to support Wally service. As discussed with Mr. White, these routes are two to two and a half miles in length and are generally seven to ten minutes in length with four or five stops per route.

In RLBA's view, the routes' relationships to trip generators seems good with respect to the University of Michigan North Campus and the Medical Center, where most ridership is expected. RLBA analyzed the proposed routes in connection with street design/layout. It may be possible to increase the number of right hand turns, as opposed to left hand turns, which would speed up running time. Overall trip time is discussed below.

Fare Collection

The fare collection system employed by Wally should harmonize with AATA. The ability of Wally passengers to utilize standard AATA routes in addition to Wally shuttle buses will improve ridership by extending the reach of the commuter rail to more destinations in Ann Arbor. AATA currently uses a fare box with electronic transfer (magnetic stripe paper card) but not electronic payment capability. AATA buses accept cash, tokens and passes. AATA is exploring new fare boxes and pass vending machines. It is recommended that Wally determine what AATA is going to do in this regard before Wally plans and purchases its own fare purchasing and collection system.

The simplest way for Wally to handle bus fares for commuter rail passengers is to simply let the Wally monthly pass or ticket act as a flash pass on the Wally shuttle bus or standard AATA route. A flash pass is recorded by the bus driver

by pressing one or more buttons on the fare box as opposed to depositing money. Because of the added step required of the driver, AATA may resist using a flash pass system in the case of commuter rail riders utilizing AATA standard routes. Also this system requires AATA to train its bus drivers on more types of passes and AATA must enforce the procedure to ensure that drivers are counting all pass users, especially if the flash pass system is the way AATA is to be compensated for Wally commuter rail passengers on AATA standard routes.

On Wally shuttle buses the flash pass system also could be used. In this case AATA probably would be less concerned if AATA is charging set fees to operate the service for Wally as opposed to being paid per rider. In this case the driver pressing one or more buttons on the fare box would be giving Wally ridership information on only one route versus another.

AATA would prefer that all Wally tickets and passes have a magnetic stripe to utilize the current fare boxes' electronic transfer feature. But if AATA is going to replace its fare boxes, it would not be in Wally's best interest to purchase equipment that relates to a fare collection system that AATA will be phasing out.

Whatever system is chosen needs to align with AATA's yet-to-be-selected fare box system. It would seem prudent for Wally to pay a set price for the operation of the shuttle buses and reimburse AATA on a per passenger basis when a Wally commuter rail passenger uses an AATA standard route to get to a destination.

Competitive Procurement

This leads to another point surrounding the operation of the Wally shuttle bus service. It is in the best interest of Wally to get the best price in the procurement of the shuttle bus service. This means that operation of the service should be put out to competitive bidding, including a bid from AATA. Allowing AATA to bid on the work may allow AATA to tender more favorable terms and service than if they were tasked with providing the bus service. RLBA was informed that AATA incurs a cost of \$85 per platform hour. Cost per platform hour essentially is the all-inclusive cost or rate to provide bus service. The national average is only \$60 to \$70 per platform hour, which leads RLBA to conclude that more cost effective service may be available through competitive bidding of the shuttle service. It is noted that the per hour cost of the bids may be higher than the national average because of the short duration of service, two to two and a half hours per day, and the consequent need for split shifts. AATA estimates that four and a half platform hours will be required per bus per day. In addition to local transportation providers, many national providers exist that could submit a bid on this service such as Veolia Transportation, MV Transportation and First Transit.

Choice of Bus and Related Cost

Also AATA has stated that it desires to use new 40 foot low-floor hybrid buses on

the shuttle service, at a cost of \$550,000 per bus. The same bus without the hybrid option would cost \$325,000, while an 8 to 10-year-old high-floor diesel bus could be purchased for \$200,000. The amount of capital investment required to provide shuttle bus service is widely variable. The decision of what buses to use is a complex one. The older buses will have higher maintenance expense, use more fuel and have higher emissions. But the buses used in the shuttle service will only get four and a half hours of use per day instead of a full day of use, with much fewer miles than the average bus would get in a day. So the determination of which bus is the best to use in the service may be different than the decision arrived at for AATA's standard routes. Also a private contractor could provide the buses and charge a higher rate per hour if Wally is looking to reduce its up-front capital cost. Additionally, depending on the funding availability, it may make sense to spend more on initial capital costs to reduce long-term operating and capital costs.

Number of Buses Needed

AATA assumed that it would use only one bus on each of the five routes, and that it would procure an additional bus as a spare. Low-floor buses that AATA plans to use seat 33 while high-floor buses seat 42. The comfortable standing load on either type is about 60. Also Wally could consider the use of 60 foot articulated buses on high demand routes to keep the bus capacity aligned with trip demand. A decision will have to be made on which model will be used. Standing on a shuttle bus ride can be a dis-incentive to use of the service. Wally will have to determine if potential users of the service are willing to stand on the shuttle busses or not.

With an expected ridership of 1,300 roundtrips per day on four trains inbound and outbound, each train would average about 325 passengers. Usually the ridership is not even across the multiple trains. The peak load easily could be twenty percent higher than the average load or about 390 passengers on a train. Using a low-floor bus with a comfortable standing capacity of 60, seven buses will be required, not five as originally planned. If seven buses are required, it might or might not make more sense to have more routes than the original five. Also the routes and bus assignments will need to be adjusted regularly so that the passenger loads are distributed evenly so as not to have a bus hauling a crush load of 70+ people while another carries only 25.

Total Transit Time

RLBA assessed the car-competitiveness of the total projected transit time from origin to destination. RLBA discussed the auto commute time from Howell to Ann Arbor. A transit time of 45 minutes was the number generally agreed upon (assuming no problems on U.S. 23). If two minutes are added in order to walk to a building from a parking lot, the total auto transit time would be 47 minutes. The total commuter rail transit time was estimated to be one hour and seven minutes,

or 20 minutes longer than commuting by car. This estimate was derived from the following assumptions:

1. The drive to the origin train station will take ten minutes.
2. The passenger will arrive at the station five minutes early.
3. The actual train ride from Howell to Plymouth Road in Ann Arbor will take 39 minutes.
4. It will take five minutes to unload the train and load the buses.
5. AATA estimates the average route as taking seven minutes.
6. The walk from the bus stop to a destination would take one minute.

Since the travel time by commuter rail is twenty minutes longer than by car a commuter will need an incentive to ride a Wally commuter train. There could be many incentives for drivers to get off the road, such as the ability to relax, read or work during their commute. Also service and reliability are important factors. But one very large factor is economics; can the average commuter save money by using the service? RLBA estimated the average commuting cost by auto between Howell and Ann Arbor at about \$225 per month for fuel alone. This commuting cost was estimated using the following assumptions:

1. AAA lists \$3.70 as the average price per gallon in Michigan.
2. The average auto used in the commute gets twenty miles per gallon.
3. The above two factors produce a fuel cost per mile of \$0.185/mile.
4. The round trip is 56 miles.
5. There are five working days per week.
6. There are four and one third weeks per month.

Business Plan Ticket Price

The Wally business plan lists a monthly ticket price of \$145. This is a reasonable difference and may be a factor, especially as fuel costs increase, in influencing commuters to use the Wally commuter train service. Further if the cost of auto maintenance or depreciation is included, then the cost savings by Wally commuters would be even greater. One RLBA senior analyst keeps detailed maintenance records on his vehicles and determined his cost per mile at \$0.085 for routine maintenance. This would add an additional \$100 in monthly costs. Michigan DOT on its website provides a cost of \$0.43 per mile for insurance, depreciation and maintenance. RLBA thinks this overstates a commuter's expense since the auto would continue to depreciate as it is sitting in the train station parking lot and insurance costs would not be reduced much since the commuter would not be giving up his or her auto. A commuter most likely will compare only the marginal or avoidable cost (fuel and maintenance) when comparing it to the cost of the commuter train.

Marketing

Wally must create a marketing program that increases awareness of these matters. Wally has started this process by designing a logo for the service. This is a start, but Wally needs to understand that marketing is:

- Product (schedule, comfort, reliability, ease of use, etc.)
- Price
- Place
- Promotion: brand, ads, etc.

The plan must take into account these factors and use them to affect new ridership and retention.

Howell Bus Service

On the Howell end of the line, a coordinating bus service also could be provided. This service could either shuttle riders to and from off-site parking or bring riders from the surrounding area to the train station. A good example of these types of services are the VRE EZ Bus and Burke Center Station Shuttles, which can be found at, <http://www.vre.org/service/stations/burkecentreparking.htm>. On the off-site parking shuttles, there is no ticket; the service is free to passengers, with no proof required. As in the earlier example in Ann Arbor, the bus driver would press a button to record riders as they enter the bus. The VRE EZ Bus is a neighborhood bus route in the vicinity of the train station. It is what is called a subscription bus service, which operates in a similar manner to a school bus. A commuter interested in using the service calls or emails Wally, which adds the commuter's name to the list of riders that the bus driver is to pick up. Wally informs the rider of a certain corner or other landmark at which to wait, since no bus stop signs are used in this type of service. When a commuter gets on the bus his or her name is checked off a list. With this type of service, Wally would simply contract for its provision from a private contractor or the Livingston Essential Transportation Services (LETS), which provides a dial-a-ride service within the county. LETS utilizes a very similar type of bus to what would be used on this type of service, a "cut-away" bus which is a small bus built on a full-size van frame up to a heavy truck chassis, depending on seating capacity.

Customer Care

There are multiple solutions to capture and address customer concerns. These solutions can include phone-based and web-based applications, along with traditional surveying of the paper-based variety. Surveying current passengers on a quarterly basis would be advisable to keep close tabs on the service provided to passengers, along with other items such as the customer service skills of the staff. One important aspect of surveying is driving up completion rates and simplifying tabulation. The latter aspect makes online surveying a

popular method to reduce labor costs associated with survey tabulation. One problem with online surveying is that completion rates may be low since the survey respondent must take time later to fill out the survey instead of doing something else with his or her time. This is one reason why having drawings for free items or tickets for survey respondents is a good idea to help increase completion rates. It is easy to get the person who is very unhappy or very happy to respond to the survey but harder to get those in the middle. Paper surveys, while not as easy to handle administratively, have the advantage of being able to be completed while the commuter is riding on the train. If the train has Wi-Fi and commuters bring laptops then online surveys could have the same use, reducing the number of paper surveys used.

The most economical way for Wally to handle web comments and concerns is having a form handler on the yet-to-be-created Wally website similar to the one used by Altamont Commuter Express: <http://www.acerail.com/about-ACE/feedback.htm>. This is a simple application that routes customer comments or concerns to a selected employee's email inbox. Other operations like LETS and the Music City Star commuter train service simply have the email addresses of their staff listed on their websites.

A phone line providing travel and delay information is an important service to have. It is usually contracted out to service providers so information is available well before the first train's scheduled departure, even though the Wally headquarters may not have opened yet. These services are especially important during times of inclement weather to notify riders of service changes. Based on the expected level of ridership at start up, Wally should explore contracting with AATA to be included in AATA's phone information service.

Conclusions

Connecting bus service is very important to attracting Wally ridership and must be carefully planned and well executed.

Marketing and customer-interface programs are likewise very important in attracting riders and in obtaining rider feedback.

Wally fare collection should be coordinated with that of AATA or LETS if connecting bus service in Howell is utilized.

Subtask 2.7. Development Opportunities and Risks

Requirement

There are several opportunities for development along the Wally route in the City of Howell, Genoa Township, Hamburg Township, Northfield Township and in Downtown Ann Arbor should those stations become operational. Hamburg Township is the only community with Transit Oriented Development included in its Planning documents. The contractor shall evaluate the opportunities and risks of transit oriented development near the proposed stations.

Discussion

Transit Oriented Development (TOD) is a land use planning concept that involves a focus on mixed-use development within a quarter to a half mile of a transit (commuter rail) station. It is often talked about in the context of smart growth initiatives or reviving underused or blighted property in a downtown area that is proximate to a rail line. By encouraging development close to transit stations TOD encourages commuters to reduce their dependence on driving or to lessen the use of automobiles during their trips to and from work. From reviewing various examples of TOD and the Ten Principles for Successful Development Around Transit (as defined by the Urban Land Institute), it becomes apparent that thoughtful and thorough planning on the part of the Coalition and all other interested parties, will be of paramount importance to effective transit oriented development, as it also will be with establishing the Wally service itself.

The developed space of a TOD project tends to breakdown into 60 percent residential, 30 percent commercial, and 10 percent professional, according to Earl La Fave of Beck Development Company. Beck Development is contemplating a project in the vicinity of the proposed Whitmore Lake Station location.

Six of the Urban Land Institute's Ten Principles for Successful Development Around Transit are most relevant to development of Wally and can be summarized as:

1. Make it better with a vision: A community embraces a vision for the type of living and work place it wants to be, and uses transit oriented development as a vehicle to help achieve that vision.
2. Apply the power of partnerships: Mutually beneficial partnerships among the transit authority, the public, local governments and private sector must be established and sustained.
3. Think development when thinking about transit: Integrate land use planning with commuter rail planning.

4. Get the parking right: A station's parking requirements will have a large impact upon the extent to which the surrounding community feels connected to or separated from the commuter rail system.
5. Build a place, not a project: The transit agency, through its partnerships (see # 3), encourages station design that creates a sense of place.
6. Make retail development market driven, not transit driven: The retail development must be able to thrive independent of the commuter rail service, although commuter rail access can strengthen the retail market.

RLBA discussed elements of transit oriented development (TOD) with Coalition members to gather their perspectives on potential opportunities and risks of TOD near the proposed stations. These observations were integrated with the experience, research and observations of RLBA staff to produce the following opportunities and risks.

Opportunities

The opportunities that arise from transit-oriented development are mostly in areas of enhancing property values and municipal tax revenues through enriched quality of life values.

- TOD might appeal to financially conservative local and county governments who could see an increase in business-generated tax revenues as an offset to contributions, grants or subsidies that would be needed from the governments to support Wally.
- Property value appreciation yields an increasing tax base value which also could increase revenue to local governments. Development plans in the vicinity of Whitmore Lake are valued at \$25 to 30 million according to a developer.
- New businesses that arise in the course of development will create new jobs.
- Municipal and county government organizations might become eligible to earn Federal carbon credits for reducing car use of roads.

Risks

Two types of risks potentially threaten communities' plans for TOD in conjunction with Wally service. The first is that the service may not achieve its goals in terms of service delivery and attraction of ridership. This could result from various circumstances, including the following.

- The Wally service may not be competitive with car-based commuting in terms of transit time, cost and ease of use.
- Financing needed to accomplish TOD may not be forthcoming – large amount of private up front capital is needed.
- Delays could occur in construction of supporting public infrastructure (roads, water, electric, etc.)
- Zoning approvals could be delayed or disapproved.
- Elements of the public may resist to high-density development..
- Wally leadership may be unable to convince the public that no public transit system can support itself solely from farebox revenue, and that Wally will therefore need long-term government and non-government funding support.
- Local fears of congestion in downtown or on surrounding roads which might result from commuters driving to the station from farther-out locations.
- Parking may be of insufficient quantity and poorly placed. This issue has been prominent in RLBA's conversations with Coalition members and it has been discussed in Subtask 2.2 Station Development, of this study. The fact that the Urban Land Institute made "Getting the Parking Right" (Principle # 4) one of its Ten Principles for Successful Development Around Transit reinforces the importance of this element of Wally development, and so failure in this area would seem to be a significant risk.

The second element of risk associated with TOD is that plans may not accurately reflect the actual volumes of passengers/customers drawn to the various stations. Startup commuter rail passenger volumes are far less than those experienced by mature services and often less than higher density transit services such as heavy rail. Plans for retail, commercial or residential development should be based upon a realistic estimate of potential near and far term ridership.

Examples

The following examples of TOD initiatives provide perspective for further discussion among Coalition members about issues associated with TOD in the Wally corridor. These cities were chosen because they are close in population

size to those of cities along the Wally corridor and because most of them involve commuter rail operations.

Village of Arlington Heights, Illinois: After the downtown began to decay in the 1970's, the Village of Arlington Heights began to revitalize its town center. The area was designated with two tax increment financing districts, as well as a zoning ordinance designed to allow for a mix of densities. The commuter rail station was moved and rebuilt to make it a more integral part of the downtown. The revitalization has resulted in over 600 new residential units and mixed used development that includes restaurants, retail, and entertainment options in the central business district near the rail station. Arlington Heights has a population of 78,000 and is located on the Metra commuter rail network's Union Pacific Northwest Line which provides a 45-minute ride to downtown Chicago. [Sustainable Development Series, Northeastern Illinois Planning Commission and the Campaign for Sensible Growth, Vol. 1, January 2004].

Saco, Maine: The development of a \$100 million mixed-use project centered around a rail station, including full passenger amenities as well as office space, in Saco, Maine, is proof that transit oriented development has emerged from the fringes, even in communities with small populations. Saco is served by five roundtrip Amtrak trains daily, which link Boston and Portland, Maine, only one more than being proposed by the Wally Coalition and while the situations may not seem comparable, the catalyst of the transit oriented development in Saco is that Saco is only 22 minutes from Portland, an ideal commute. Saco's population is 19,143.

Tri-County Metropolitan Transportation District of Oregon (TriMet) is heavily involved in TOD, as well. When the agency built its Westside light-rail extension in the early 1990s, officials determined they would need to focus on station area planning to meet ridership projections. TriMet launched the Westside Light Rail Station Area Planning and Development Program under which the agency implemented a coordinated approach for land use around stations. TriMet worked with developers, landowners, residents and communities to create standards for zoning, design and transportation access. "At the time, we didn't really understand the power light rail had to shape communities", says TriMet Senior Planner Jillian Detweiler. Since TriMet embraced TOD in the mid-1990s, the agency has recorded about \$4 billion worth of development near its stations. TriMet took advantage of a Federal Transit Administration (FTA) joint policy issued in 1997 that enables transit agencies to sell property for less than market value to attract TOD. The agency also adopted its own policy to manage real estate in an effort to promote ridership and vibrant station areas, says Detweiler. [<http://www.progressiverailroading.com/pr/article.asp?id=16066>, 4/11/08]

Wilson County, Tennessee: Along the Music City Commuter Rail line, Lebanon (east end of the 31 mile line), and Mt. Juliet have begun exploring potential transit oriented development through a workshop sponsored by the Middle

Tennessee American Institute of Architects Chapter and through design assistance from the University of Tennessee School of Architecture. Lebanon's population is 43,512 and Mt. Juliet's is about 20,500.

Conclusions

High priority should be placed upon establishing a first-rate, automobile-competitive commuter rail service, because this is what will attract riders.

Coordination is necessary between private developers and local and county government agencies.

Service planners and land use planners should work in close consultation to develop realistic plans.

Subtask 2.8. Ann Arbor Railroad Extension

Requirement

The contractor shall evaluate options for extending service to downtown Ann Arbor and the University of Michigan South Campus. The contractor shall also recommend a course of action to address Ann Arbor Railroad, Great Lakes Central Railroad and the Authority's needs and expectations.

Discussion

This prospective extension, connecting the proposed Plymouth Road station and the proposed University of Michigan Stadium station, raises many of the same issues pertinent to the Great Lakes Central Railroad (GLC) corridor, including track condition and speed, grade crossings, track access and liability, as well as the complications inherent with having to interface with another railroad. As with the initial phase of operation between Howell and Plymouth Road, expected ridership levels will be critical to any evaluation of the benefits and costs of extending the service into downtown Ann Arbor and the University of Michigan south campus. The additional ridership that might result from this extension has not yet been developed by the Coalition and investigation of this issue is recommended.

It is assumed that the Plymouth Road station would remain in service upon commencement of the extended service because it is most proximate to the University of Michigan Medical Center, a key source of ridership. Inbound morning trains would proceed south on the GLC, enter the Ann Arbor Railroad (AARR) at MP47.5 and proceed southward to serve the Ann Arbor – Downtown Station (approximately 1.5 miles from MP47.5) and a station adjacent to the U of M Stadium complex (Hoover St. at the north edge of the complex is MP 44.64). Commuter trains would cross the 650-foot long Huron River Bridge in the process. Inbound morning trains would be stored on the main, or on a siding (new construction) located south of the Stadium Station and next to the AARR mainline, until employed as outbound trains in the evening. During this layover, incidental cleaning of the cars' interiors would be accomplished.

Two key issues must be resolved for the extension to be implemented: (1) establishing reasonable certainty that a downtown station location, that meets the City's and Coalition's criteria, can be secured, and (2) gaining access to approximately three miles of the AARR between its northern-most point at a connection with the Great Lakes Central Railroad at MP 47.5, and a location between Hoover Street (MP 44.64) and Stadium Street.

Three potential Downtown station sites are discussed in this study: W. Washington Street (a City-owned parcel), and two in the vicinity of the intersection of W. William and 1st Streets. Downtown station sites will need to address three concerns identified by local officials: (1) proximity to the core downtown, the center-point of which is the intersection of Huron and Main Streets, (2) avoiding the blocking of city streets that see

significant traffic during the rush hours (as defined by city traffic and planning officials), and (3) mitigating the impact of the eastward uphill walk (toward Ashley Street) that passengers will encounter when walking toward downtown and University of Michigan's Central Campus.

As to the prospective University of Michigan Stadium Complex site, there appears to be space within the AARR right of way between Hoover and Stadium Streets to accommodate a station platform and one or two layover tracks. The University feels that it needs a better understanding of the size, siting and access requirements of a prospective station at this location before further assessing the site.

Characteristics of the above sites are discussed under Subtask 2.2., Station Development.

On the issue of commuter train access to AARR tracks, RLBA spoke with AARR's president and its Chief Engineer. Their positions were the same: the AARR is not interested in granting access to the commuter trains because of concern that the potential liability costs of a catastrophic accident, such as derailing a commuter train into the Huron River, would cause the owners to lose the railroad. There was also a strong implication that liability insurance costs associated with hosting commuter passenger trains would threaten AARR's profitability. They also expressed concern about commuter train interference with AARR freight train operations. Given that AARR indicates that it generally operates only one, or sometimes two, trains per day (to and from Osmer), it seems that some reasonable agreement about the scheduling of track usage should be achievable between the Wally Coalition (or authority created to operate commuter rail service) and AARR. When asked for a solution to the liability issue, AARR stated that it would want to be held completely harmless and that a second party insured be named. AARR's concern about the cost of purchasing sufficient liability insurance would be addressed by such costs being passed through to the Wally Coalition in any access agreement, or by the Coalition directly purchasing the necessary insurance coverage.

Assuming that the above concerns can be addressed to the satisfaction of AARR and the Coalition, the conditions under which the commuter trains would achieve access to the AARR would be articulated in: (1) a shared use agreement, which is common in the railroad industry or, (2) a lease or (3) purchase of the desired segment by the Coalition from AARR. It is possible that a lease or purchase would be preferable options for addressing the liability issue, since they would pass control of the railroad to the Coalition and with such control would come the responsibilities and costs associated with liability for personal injuries and losses to passengers in the event of an accident. This is not a legal opinion, and RLBA strongly recommends that the Coalition review these options with insurance professionals to assess their viability, and the cost and availability of insurance coverage.

It is important to recognize that sale or lease of the approximately three miles of AARR right of way between Plymouth Road (MP 47.5) and the University of Michigan stadium

complex (MP 44.64) appears to offer an advantage to AARR, and no disadvantage, in that there are no freight customers on this segment, and it is not likely that there will be any in the future.

The control resulting from a lease or purchase of the needed portion of the AARR line also would bring the Coalition the advantage of more control over train operations on the line. It would then have the ability to establish priority treatment of commuter operations needs, within reason, over AARR's freight operations. An example of such control would be establishing time periods during which commuter operations would have exclusive access to the track. Ultimately, however, priority treatment and other operational issues likely would be spelled out in any agreement.

Incremental train operating costs over the extension are expected to be relatively modest, given that the commuter train run would only be extended by approximately three miles. Capital costs will depend upon requirements that result from inspection of the AARR track and right of way, and design of station facilities. Capital expenses would cover construction of two new stations, installing or upgrading of walkways and railings of AARR's Huron River Bridge, upgrading the AARR track to 30 mph (FRA Class II, passenger) from its present 15 mph passenger, and possibly building storage facilities (one long or two short tracks) at which morning inbound trains would lay over until their evening outbound runs. The ability to lay over the trains on the main track would be governed by the needs of AARR's freight operations and the terms of the agreement by which the Coalition gains access to the AARR's track.

RLBA examined the condition of the rail line from public property and estimates that the condition of the track is in keeping with the 10 (freight) and 15 mph (passenger) speed limits (FRA Class 1) cited by AARR's Chief Engineer on this segment of track. Grade crossing condition was generally acceptable. Increasing the track speed limit to 30 mph (FRA Class 2, passenger) would allow the additional three miles to be covered in twelve to thirteen minutes.

Conclusions

Securing a suitable downtown station location and gaining access to a segment of the AARR by addressing AARR's concerns about potential liability costs of commuter train operations are the key challenges to extending Wally Coalition commuter service into downtown Ann Arbor.

Ridership levels that would use the extended service need to be better understood so the Coalition can evaluate the potential costs and benefits of the extension.

RLBA recommends that:

1. The City of Ann Arbor and the Coalition take the steps necessary to establish reasonable certainty that they are able to secure a downtown station location

- that meets their proximity, grade crossing and eastward uphill walking concerns.
2. The Wally Coalition obtain appropriate professional advice as to whether a lease or purchase of the needed three miles of the AARR would prove the preferable method through which necessary liability insurance could be acquired, and then negotiate an agreement with AARR.
 3. The Coalition and the University of Michigan further research the potential ridership volume and needs of the potential Stadium Complex station so the University can develop plans about the property and access that it would need to provide at this location.

Task 3. Funding

Requirement

Of critical concern is the financial capacity of the partner communities to initiate and sustain this service. The contractor shall review the preliminary budget spreadsheet and assumptions in light of additional work, if any, identified in Task 2. The contractor shall provide projections of revenue streams in broad categories; fares, local government subsidy, state and federal support. The contractor shall provide examples of revenue sources used by other similar services.

The contractor shall identify a plan that would provide the resources to sustain service for a period of ten years. The basis for allocating costs to the various revenues sources should be outlined in sufficient detail to provide confidence in the sustainability of the service.

Deliverables:

1. *Technical Memorandum Defining Capital needs for service start-up*
2. *Definition of initial annual and ongoing operations budget including revenue projections*
3. *Identification of possible funding sources with documentation of assignment of local costs*

Discussion

To provide a comprehensive understanding of the capital and operating costs, and funding and revenue sources contemplated to support the proposed service, RLBA built its analysis upon the following detailed budget files and reports:

- “Master Budget and Contact Info from Terri B 042908 Budget Revised March 08 TB 10 yr.”, Excel file provided by Washtenaw Area Transportation Study (WATS). *For brevity, cited as “Wally Budget” in the following discussion.*
- “WALLYOPERBUDGET from Great Lakes Central RR – Mike Bagwell”, Excel file provided by Great Lakes Central Railroad (GLC). *For brevity, cited as “GLC Budget”*
- “Review of Proposed Operating and Capital Costs”, Excel file prepared April 30, 2008 by RLBA. *For brevity, cited as “April 30 Review”.*
- “Track, Signals and Grade Crossing-table”, Excel file developed for Subtask 2.3 by RLBA. *For brevity, cited as “Track & Signals”*
- Various Federal laws and regulations pertaining to funding opportunities.

Various members of the Coalition, including Washtenaw Area Transportation Study (WATS), Michigan Department of Transportation (MDOT), and Great Lakes Central Railroad (GLC), were consulted about various aspects of these budget files and reports. RLBA made appropriate adjustments based upon these conversations and upon its

experience with other commuter rail startups. Ten-year projections of all cost and revenue streams were then calculated along with key summary calculations such as operating surplus (shortfall). These data are summarized in Table 1 on the next page.

In this discussion, the first time that a value from Table 1 is cited, it is followed by a reference to the line number of Table 1 on which it appears. Additionally, where these specific values come from the above support files, the name and line number of the support file are cited. Where there is no such additional citation, the values result from RLBA analysis and calculations.

The Funding and Financial Plan needs to support a projected annual ridership (Table 1, line 2) of 655,200 trips in Operating Year 1, which is projected to grow to 854,887 annual trips in Year 10, applying the Coalition's three percent annual growth rate. These figures reflect ridership only at Howell, Chilson/Brighton, and Whitmore Lake stations since survey-based ridership estimates for a prospective station at Hamburg are not yet available.

Successful management of the project's financial plan, including systematic targeting and securing of funding, and management of vendor contracts, will require additional efforts, perhaps including establishment of a formal management organization, which we call for purposes of this discussion the Wally Regional Transportation Authority (WRTA).

Capital Needs for Start-up and Sustained Operation

Technical information that defines capital needs for startup is detailed in Subtask 2.3 Track, Signals and Grade Crossings, and other subtask reports. These costs have been included in the Capital Plan section (Table 1, line 3; and Track & Signals, entire table) of this Funding and Financial Plan analysis, and some are mentioned in the following discussion.

\$32.4 million (Table 1, line 4; and Track & Signals, "Total" line) will be required to build track, station, signal and bus infrastructure that supports safe and sustainable operation, and to deliver fare and service levels that attract riders from their present commuting modes. The most critical and largest single amount, \$18.4 million, would be invested in track, signal and grade crossing upgrades to allow safe operation of commuter trains at a track speed of 60 mph. Other major investments that will be required include \$3.85 million for new shuttle buses and \$4.3 million for platforms and parking at stations. The latter amount does not include uncertainties and environmental mitigation, which are addressed in the contingency item under Subtask 2.3. These expenditures should be made prior to starting operations and should be viewed as the minimum necessary to launch a successful service. While sequencing of individual investments might be shifted for project management purposes, no one investment is more important than another to the launch of service.

Table 1
Washtenaw - Livingston North South Commuter Rail Service (Wally)
Funding and Financial Plan

| Line | Item | Start-up Construction | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
|------|---|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 1 | Ridership | | | | | | | | | | | |
| | Based on 2,600 daily trips in Operating Yr. 1 and assumes 3% average annual growth | | 655,200 | 674,856 | 695,102 | 715,955 | 737,433 | 759,556 | 782,343 | 805,813 | 829,988 | 854,887 |
| 2 | | | | | | | | | | | | |
| 3 | Capital Plan | | | | | | | | | | | |
| 4 | Total Capital Expenses | \$ 32,446,000 | \$ 300,000 | \$ 311,400 | \$ 323,233 | \$ 335,516 | \$ 348,266 | \$ 361,500 | \$ 375,237 | \$ 389,496 | \$ 404,297 | \$ 419,660 |
| 5 | Total Capital Funding | \$ 575,900 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| 6 | Capital Funding Surplus (Shortfall) | \$ (31,870,100) | \$ (300,000) | \$ (311,400) | \$ (323,233) | \$ (335,516) | \$ (348,266) | \$ (361,500) | \$ (375,237) | \$ (389,496) | \$ (404,297) | \$ (419,660) |
| 7 | Operating Plan | | | | | | | | | | | |
| 8 | Expenses | | | | | | | | | | | |
| 9 | Railroad Operations Expense | | \$ 4,657,730 | \$ 4,834,723 | \$ 5,018,443 | \$ 5,209,144 | \$ 5,407,091 | \$ 5,612,561 | \$ 5,825,838 | \$ 6,047,220 | \$ 6,277,014 | \$ 6,515,541 |
| 10 | Other Operations Expense | | \$ 1,875,300 | \$ 1,948,437 | \$ 2,024,426 | \$ 2,103,378 | \$ 2,185,410 | \$ 2,270,641 | \$ 2,359,196 | \$ 2,451,205 | \$ 2,546,802 | \$ 2,646,127 |
| 11 | WALLY Regional Transportation Authority (WRTA) Expense | | \$ 551,250 | \$ 572,749 | \$ 595,086 | \$ 618,294 | \$ 642,408 | \$ 667,462 | \$ 693,493 | \$ 720,539 | \$ 748,640 | \$ 777,837 |
| 12 | Total Operating Expenses | | \$ 7,084,280 | \$ 7,355,909 | \$ 7,637,954 | \$ 7,930,816 | \$ 8,234,909 | \$ 8,550,663 | \$ 8,878,527 | \$ 9,218,963 | \$ 9,572,456 | \$ 9,939,504 |
| 13 | Revenues | | | | | | | | | | | |
| 14 | Farebox Revenue | | \$ 2,104,200 | \$ 2,167,326 | \$ 2,232,346 | \$ 2,414,282 | \$ 2,486,710 | \$ 2,561,312 | \$ 2,638,151 | \$ 2,846,691 | \$ 2,932,091 | \$ 3,020,054 |
| 15 | Advertising & Service Revenue | | \$ 25,000 | \$ 26,250 | \$ 27,563 | \$ 28,941 | \$ 30,388 | \$ 31,907 | \$ 33,502 | \$ 35,178 | \$ 36,936 | \$ 38,783 |
| 16 | State & Federal Operating Subsidies | | \$ 2,090,569 | \$ 2,170,611 | \$ 2,253,718 | \$ 2,640,007 | \$ 2,738,600 | \$ 2,840,895 | \$ 2,947,029 | \$ 3,057,148 | \$ 3,171,403 | \$ 3,289,949 |
| 17 | Grant Revenue | | \$ - | \$ 1,510,000 | \$ 1,250,000 | \$ 1,250,000 | \$ 1,250,000 | \$ 1,250,000 | \$ 1,250,000 | \$ 1,250,000 | \$ 1,250,000 | \$ 1,250,000 |
| 18 | Other Government & Non-Government Organization Contributions | | \$ 2,141,000 | \$ 1,506,000 | \$ 1,506,000 | \$ 1,256,000 | \$ 1,256,000 | \$ 1,256,000 | \$ 1,256,000 | \$ 1,256,000 | \$ 1,256,000 | \$ 1,256,000 |
| 19 | Sub-total: Subsidies, Grants & Contributions | | \$ 4,231,569 | \$ 5,186,611 | \$ 5,009,718 | \$ 5,146,007 | \$ 5,244,600 | \$ 5,346,895 | \$ 5,453,029 | \$ 5,563,148 | \$ 5,677,403 | \$ 5,795,949 |
| 20 | Grand Total Revenue | | \$ 6,360,769 | \$ 7,380,187 | \$ 7,269,626 | \$ 7,589,230 | \$ 7,761,698 | \$ 7,940,113 | \$ 8,124,682 | \$ 8,445,017 | \$ 8,646,431 | \$ 8,854,787 |
| 21 | Operating Surplus (Shortfall) | | \$ (723,510) | \$ 24,278 | \$ (368,328) | \$ (341,587) | \$ (473,211) | \$ (610,550) | \$ (753,844) | \$ (773,947) | \$ (926,025) | \$ (1,084,718) |
| 22 | Net Capital + Operating Surplus (Shortfall) | \$ (31,870,100) | \$ (1,023,510) | \$ (287,122) | \$ (691,561) | \$ (677,103) | \$ (821,476) | \$ (972,050) | \$ (1,129,081) | \$ (1,163,442) | \$ (1,330,321) | \$ (1,504,378) |
| 23 | Accumulated Net Surplus (Shortfall) | \$ (31,870,100) | \$ (32,893,610) | \$ (33,180,732) | \$ (33,872,293) | \$ (34,549,396) | \$ (35,370,872) | \$ (36,342,922) | \$ (37,472,003) | \$ (38,635,445) | \$ (39,965,767) | \$ (41,470,144) |
| 24 | Key Ratios | | | | | | | | | | | |
| 25 | Farebox Recovery of Total Operating Expenses | | 30% | 29% | 29% | 30% | 30% | 30% | 30% | 31% | 31% | 30% |
| 26 | Farebox as Percentage of Grand Total Revenue | | 33% | 29% | 31% | 32% | 32% | 32% | 32% | 34% | 34% | 34% |
| 27 | Total Operating Subsidies, Grants, & Contributions as Percentage of Grand Total Revenue | | 67% | 70% | 69% | 68% | 68% | 67% | 67% | 66% | 66% | 65% |

Long-term success of commuter rail operations also depends upon on-going capital outlay in the form of program maintenance. This addresses long-term “wear and tear” on track structure and generally occurs in the form of replacing ties, and in ballasting and surfacing the track. This critical work constitutes renewal of what will be the existing commuter rail infrastructure, and is considered capital investment. \$300,000 is projected for Operating Year 1 (Table 1, line 4; and Wally Budget, tab Howell to Barton, line 8) with annual cost increases growing it to approximately \$420,000 in Year 10.

The Coalition has identified \$375,000 in potential one-time capital funding from the Michigan Department of Transportation (MDOT) and \$200,000 from the Great Lakes Central Railroad (GLC). (Table 1, line 5; and Wally Budget, tab Howell to Barton, lines 16 & 18) Potential federal capital funding sources such as the Small Starts Program and Section 130 Grade Crossing Improvement Program are discussed below under Possible Funding Sources.

Operations Budget for Sustained Operation

The Operating Plan portion (Table 1, line 7) of the Funding and Financial Plan illustrates the additional funding challenge facing the Coalition and WRTA, and the need for a reliable, on-going funding stream. As presently composed, the plan projects an operating shortfall (Table 1, line 21) in every year but Year 2, beginning with a \$0.72 million shortfall in Operating Year 1, improving to a \$0.02 million surplus in Year 2 and finishing with a \$1.08 million shortfall in Year 10. The surplus in Year 2 is driven by the Coalition’s expectation that \$1.5 million in Federal grants (Wally budget, tab Howell to Barton, line 47) will begin to flow in Year 2. While implementation of fare increases is often politically challenging, RLBA assumed a five percent fare increase would occur in Year 4 and in Year 8.

Operating Expenses (Table 1, line 8)

Initial annual and ongoing operations budget requirements, including revenue projections for Wally, are discussed below.

RLBA re-organized the operating expenses into three segments to illustrate where funding and management attention would be focused. The projected \$7.54 million Operating Year 1 (and future years) expense is comprised of Railroad Operations Expense (Table 1, line 9; and various lines in April 30 Review and GLC Budget), Other Operations Expense (Table 1, line 10; and various lines in April 30 Review and Wally Budget) and WRTA Expense (Table 1, line 11; Wally Budget, tab Authority).

Railroad Operating Expense is the largest cost area and reflects charges that WRTA would pay to the railroad that will be operating the commuter rail service, and to any other railroad whose facilities might be used. The \$4.66 million projected for Operating Year 1 is approximately \$0.10 million higher than was projected in RLBA’s April 30 snapshot report because diesel fuel expense (using current prices) increased from

\$3.25 per gallon in Great Lakes Central Railroad's original budget to \$3.84 per gallon being paid in June 2008. Train fuel expense was determined separately from the original Train Equipment, Fuel & Maintenance category because its price has been volatile over the past year. It is the third largest railroad expense, behind Train and Equipment Maintenance (\$1.63 million in Operating Year 1) and Railroad Personnel (\$0.96 million in Operating Year 1). RLBA attempted to identify a separate fuel cost escalation factor that seemed reasonable but was unable to do so. Therefore we applied the average five-year change of the Association of American Railroads' all-inclusive index less fuel factor to escalate all of the Railroad Operations Expenses by 3.8 percent per year. This projects Railroad Operations Expenses to be \$6.52 million in Operating Year 10.

Railroad Operating Expense includes a \$30,000 estimated expense, based upon RLBA's industry experience, for Trackage Rights on Ann Arbor Railroad (AARR) even though this plan does not contemplate operating passenger service over AARR into downtown Ann Arbor. This expense results because GLC expects to use a portion of the AARR mainline south MP47.5 to hold the first three morning trains while awaiting the fourth train to arrive, and then relocate these trains to Osmer for layover prior to afternoon outbound commuter train service.

Other Operating Expense (Table 1 line 10) is the second largest cost area and is expected to total \$1.88 million in Operating Year 1. This includes costs of supporting functions such as \$0.7 million for operating connector buses, \$0.47 million for station/parking leases, and \$0.43 million for passenger injury and loss liability insurance. Other Operating Expense is \$0.20 million higher than reported in the April 30 estimate because RLBA expects that more buses to be operated than originally projected. For the ten-year projection, all costs under Other Operating Expense are inflated at 3.9 percent per year, a five-year average change in the Consumer Price Index-Transportation through 2007.

The final major cost segment, Wally Regional Transportation Authority (WRTA) (Table 1 line 11) reflects estimates from the Wally Business Plan of February 2008. These costs include \$0.28 million for staff and \$0.17 million for marketing.

Revenues (Table 1, line 13)

The Coalition has done a good job of identifying a base of 33 potential revenue sources which project generation of \$6.36 million in Operating Year 1 and \$8.85 million in Year 10 (Table 1, line 20). However, as was pointed out at the beginning of this operations budget discussion, these revenue sources are not large enough to avoid an operating shortfall between \$0.34 million and \$1.08 million in nine of ten years. Addition of annual capital program track maintenance expense (Table 1, line 4 beginning under Operating Year 1; and Wally Budget, line 8) makes the Net Capital plus Operating Shortfall between \$0.29 million and \$1.50 million over the plan's ten years (Table 1, line 22). This reinforces the importance of the Coalition obtaining additional funding commitments so as to develop additional revenue streams. It is understood that some

of the organizations identified as potential sources of revenue may not be willing to commit; therefore additional sources may have to be pursued.

The single largest revenue stream is projected to come from Michigan DOT's State Operating Formula subsidy. This subsidy is based upon a percentage of reasonable operating costs, which is 32 percent in FY2008, and would amount to \$2.09 million in Operating Year 1. An MDOT representative indicated to RLBA that it is "assumed that full Wally operating costs would be allowable." Calculation of this subsidy has no connection to ridership levels or mileage, according to MDOT.

Payment of fares by the University of Michigan for the equivalent of about 554,400 annual trips by University employees would amount to the second largest revenue stream during the three years of its existence. This \$1.78 million represents 28 percent of total revenue and 85 percent of total farebox revenue in Operating Year 1, in which the University would pay 100 percent of the fares for 2,200 daily trips. The University would pay 75 percent of the fare in Year 2, and 50 percent in Years 3 through 10. Delivering high levels of satisfaction to this customer segment should be Wally's chief mission in its early years to maximize the likelihood that these customers stay with Wally as they pay progressively more of their own fares.

"Farebox Recovery" is a common yardstick for measuring a transit operation and represents the percentage of operating expenses that are covered by farebox revenue. The projected farebox recovery ratio for Wally ranges between 29 percent and 31 percent over the ten-year plan (Table 1, line 25). Wally's farebox recovery ratio is within a range that would be expected, as illustrated by the following sample of farebox recovery ratios from other transit operations:

| <u>Operation</u> | <u>Farebox Recovery %</u> |
|---|---------------------------|
| Altamont, CA, Commuter Express (commuter rail) | 28.6 |
| Ann Arbor, MI (AATA buses) | 14.4 |
| (most bus systems nationwide have very low farebox ratios) | |
| Dallas – Fort Worth, TX (commuter rail) | 8.0 |
| Los Angeles, CA, Metrolink (commuter rail) | 37.3 |
| Miami – Fort Lauderdale, FL, Tri-Rail (commuter rail) | 27.1 |
| Northern Virginia – Wash., DC, Virginia Railway Express (commuter rail) | 55.2 |

RLBA revised ridership levels downward (to 655,200 from 850,752 annually in Operating Year 1) and adjusted distribution of ridership revenue (from \$2.44 million to \$2.10 million in Year 1 and similarly in following years). University of Michigan's fare payment increased by about \$0.02 to \$0.04 million in each of its first three years due to a revised average fare per trip and application of the 3 percent ridership growth factor to the University's rider population. (The latter was not done in the original Business Plan.)

The 23 organizations which comprise the Other Government and Non-Government

Organization Contributions represent \$2.14 million of potential revenue in Operating Year 1 (Table 1, line 18; and Wally Budget, tab Howell to Barton, lines 65 - 95). In its research about the reasonableness of assuming that such a significant revenue stream can be reliably expected from many small organizations, RLBA identified the following examples of local funding.

Music City Star (Nashville, TN Regional Transportation Authority)

Three Wilson County entities (the County itself, City of Lebanon, and City of Mt. Juliet) each committed to \$20,000 annual contributions toward the line's operating subsidy during the first five years of operation. By then, it is expected that the Regional Transportation Authority (RTA) will develop a permanent, stable funding mechanism. Other than these three, there is no assistance provided by other on-line local government organizations, chambers of commerce, development authorities, schools, etc. These entities made their contributions part of their general budgets without establishing separate funding sources to support their contributions.

Each of the three entities also committed to providing in-kind services (local police providing security at stations, local parks departments maintaining landscaping and trash collection at stations, etc.) which were valued in RTA's budget at \$75,000 for each of the entities (totaling \$225,000 per year). However, it was discovered that such in-kind services really did not reduce the line's cash expenses by much and so created a nearly \$225,000 hole in their revenue stream. The RTA representative who spoke with RLBA firmly recommended against including such in-kind services in any transit start-up's financial plan. RTA is considering asking the local entities to pay the monthly electric charges for their stations. RTA's electric cost averages \$700 per month per station (\$8,400 annually per station).

Virginia Railway Express (northern Virginia suburbs of Washington, DC)

Local jurisdictions that support Virginia Railway Express (VRE) are party to a master funding agreement, which allocates operating subsidy responsibility among them. Many, like Stafford County, Prince William County, City of Fairfax, and City of Alexandria, dedicate gas tax revenue to fund their support of VRE. It is not clear to RLBA whether the money comes from locally imposed tax on gasoline purchases, or if it comes from local shares of a state-imposed gasoline tax. At least one supporting jurisdiction, Fairfax County, funds its share of VRE's operating subsidy directly from its general budget and has no dedicated funding source for this. Fairfax County also provides in-kind support by funding free shuttle buses that connect to the VRE station at Burke.

New Mexico Rail Runner Express (runs north and south of Albuquerque, NM)

This relatively new service started in 2006 and receives operating fund support from the counties (Sandoval, Bernalillo and Valencia) through which it operates. They currently provide support from their general budgets. A dedicated funding source, in the form of

a gross receipts tax on businesses, is pending voter approval. Sandoval County has also contributed \$10 million to purchase a trainset of equipment and to support station development within the county. The State of New Mexico is considering use of revenue from a tax on railroads that operate within the state to support passenger rail operations and to replace Federal grants that will expire in 2008.

Possible Funding Sources

Federal

Recent-Year Federal Authorizations

There have been three federal surface transportation authorizations in recent years. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) introduced a number of new federal funding programs. The Transportation Efficiency Act for the 21st Century (TEA-21) became federal law in 1998, continuing many of the policies and programs in ISTEA. Both authorizations provided flexibility which allows states and metropolitan planning organizations (MPOs) to employ federal funding from various sources to use in rail projects. For example, rail projects may under certain circumstances be funded from the Surface Transportation Program (STP), National Highway System, Congestion Mitigation and Air Quality Improvement Program (CMAQ), Transportation Enhancement Activities, Rail-Highway Crossing Program (often called the Section 130 program), High Speed Rail Development and others.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), signed into law in August 2005, carries on the tradition of flexibility inherent in ISTEA AND TEA-21. Briefly, and with application to rail assistance programs, SAFETEA-LU:

- Expands the “earmarks” program, which guarantees funding of a great number of projects, including passenger and freight rail;
- Reduces the threshold to obtain federal Transportation Infrastructure Finance and Innovation Act (TIFIA) assistance;
- Makes important changes in the FTA-administered New Starts program, including designation of a “Small Starts” program;
- Adds new freight rail authorization categories;
- Improves focus on freight projects;
- Greatly increases Railroad Rehabilitation and Improvement Financing (RRIF), which may be applied to passenger rail projects in addition to freight rail projects; and

- Increases grade crossing safety funds (the Section 130 program).

Flexibility in Surface Transportation Funding

As stated above, ISTEA, TEA-21 and SAFETEA-LU promote flexibility in the use of surface transportation funding. However, not all states and MPOs take advantage of that flexibility; many resist the diversion of highway funds to non-highway projects.

Selected Rail Aspects of SAFETEA-LU

SAFETEA-LU includes re-authorization of the programs mentioned above and also a number of others which may have application to rail projects, including the following:

Transportation, Community, and System Preservation Program (Section 1117)

Freight Intermodal Distribution Pilot Grant Program (Section 1306)

Deployment of Magnetic Levitation Transportation Projects (Section 1307)

Transportation Infrastructure Finance and Innovation Act Amendments (TIFIA) (Section 1601) (carry-on program from a previous surface transportation authorization)

State Infrastructure Banks (Section 1602) (also carried forward from previous authorization)

Transportation Improvements (Section 1934)

High Speed Rail Corridor Development (Section 9001) (amends Section 26101 and 26104 of Title 49)

Capital Grants for Rail Line Relocation Projects (Section 9002) (amends Code by establishing grant program)

Rehabilitation and Improvement Financing (Section 9003)

High Priority Projects Program (Section 1701) (earmarks)

There are others. The Federal Transit Administration administers programs covering both capital and operating funds.

Brief descriptions of the federal programs which may provide surface transportation funding opportunities are in the following paragraphs.

Federal Transit Administration (FTA) Programs

Following is a brief discussion of FTA passenger transportation programs.

The Section 5309¹ Capital Investment Grants (New Starts) exists to provide funding primarily of major, fixed guideway, capital investment projects, generally in highly populated urban areas, and is very competitive. Selection factors favor high-passenger-density urban transit systems. The program requires alternatives analysis, justification and local financial commitment. Projects are rated by FTA, with successful projects receiving multiyear full funding grant agreements (FFGAs).

The Small Starts Program (Section 3011 of SAFETEA-LU, and now part of 49 U.S.C. Section 5309) is a new transit program which provides assistance to smaller projects seeking a federal, News Starts share below \$75 million and a total project cost ceiling of \$250 million.² Eligible projects include commuter rail, light rail and bus rapid transit, if on a separate right of way. SAFETEA-LU requires some changes in the New Starts Program (Section 3011), including the rating system.

The Section 5307 Urbanized Area Formula Grants support public transportation capital investments and operating expenses in areas under 200,000 population, from the Mass Transit Account of the Highway Trust Fund. Recipients must be designated by Metropolitan Planning Organizations (MPOs) and projects must be in an approved Statewide Transportation Improvement Program (TIP, or STIP). Non-federal matching funds are required (twenty percent of net project cost for capital (other than vehicles), seventeen percent of net project cost for ADA/CAAA vehicles).

Earmarks

At least fourteen commuter rail projects received special “earmark” authorizations in SAFETEA-LU.³

The profusion of earmarks in SAFETEA-LU suggests that it may be wise to anticipate the next surface transportation authorization (SAFETEA-LU expires September 2009) and discuss needs with elected officials. On the other hand, earmarks are not a sure thing and the Coalition will have more control of its own destiny without heavy reliance on funding from earmarks.

The next Surface Transportation Authorization is “scheduled” for 2009.

¹ 49 U.S.C. Section 5309

² Cliff Henke, “\$53 billion SAFETEA-LU Signed Into Law,” *Business in Motion*, American Public Transit Association, September 2005.

³ “Transit gets \$52.6 billion boost,” *Railway Age*, September 2005, pages 30-35.

Congestion Mitigation and Air Quality (CMAQ) (Section 1808)

The primary purpose of the Congestion Mitigation and Air Quality (CMAQ) program is to fund transportation projects and programs, which reduce transportation-related emissions, in non-attainment and maintenance areas. A local match of at least twenty percent is required. Transit projects must be part of an approved, five-year Capital Improvement Program and must be included in the TIP.

Section 1808 of SAFETEA-LU adds direction to the Congestion Mitigation and Air Quality (CMAQ) program. CMAQ funding may be used on freight and passenger rail projects which accomplish CMAQ goals. As examples, CMAQ funding has been used to add freight rail infrastructure (track) in a heavily-congested freight rail corridor and to build freight intermodal facilities.

Rail Rehabilitation and Improvement Financing (RRIF)

The Rail Rehabilitation and Improvement Financing (RRIF) program provides direct loans and loan guarantees to state and local governments, government-sponsored authorities and corporations, railroads and joint ventures that include at least one railroad. Eligible projects include: 1) acquisition, improvements or rehabilitation of intermodal or rail equipment or facilities (including tracks, components of tracks, bridges, yards, buildings and shops); 2) refinancing outstanding debt incurred for these purposes, or 3) development or establishment of new intermodal or railroad facilities. Section 9003 of SAFETEA-LU improves this program by eliminating some onerous loan conditions and by increasing the total authorization in loans outstanding to \$35 billion (from \$3.5 billion). Loans can be for periods up to 25 years. Passenger rail projects are eligible. The Great Smoky Mountain Passenger Railroad is an example of RRIF assistance to passenger rail.

Section 130 Grade Crossing Improvement Program

Section 1401 of SAFETEA-LU, Highway Safety Improvement Program, elevates Federal funding of the Section 130 grade crossing improvement program to \$220 million annually (from \$165 million). This funding is used to improve grade crossing safety by either eliminating or improving grade crossings.

State Infrastructure Bank (Section 1602)

State Infrastructure Banks were created by Section 350 of the National Highway System Designation Act of 1995. They allow states to set aside up to ten percent of their federal transportation funding to support public-private investments. State Infrastructure Banks may offer loan and credit options to help finance infrastructure projects. Money for projects may be loaned at low rates to private investors or may serve as a capital reserve backing bond and debt financing. The loan may be repaid with revenues generated by the project.

SAFETEA-LU provides that a State Infrastructure Bank may make loans or provide other forms of credit assistance to a public or private entity in an amount equal to all or a part of the cost of carrying out an eligible project.

New York is among those states which have established State Infrastructure Banks.

TIFIA

The Transportation Infrastructure Finance and Innovation Act (TIFIA) provides credit assistance on flexible terms directly to public-private sponsors of major surface transportation projects to assist them in gaining access to capital markets. TIFIA authorizes the Secretary of Transportation to collect fees from borrowers and fund up to \$10.6 billion of direct loans, loan guarantees and lines of credit to support up to 33 percent of project costs. Eligible projects include highway and capital transit projects, intercity bus and rail projects (including Amtrak and maglev systems) and publicly-owned intermodal freight transfer facilities on or adjacent to the National Highway System. SAFETEA-LU reduced the TIFIA threshold from \$100 million to \$50 million, thus expanding project eligibility. The Secretary of Transportation selects projects based upon factors including national significance, credit-worthiness and private sector participation.

Capital Assistance to States - Intercity Passenger Rail Service Program

The Federal Railroad Administration (FRA) published in the Federal Register on February 19, 2008, a Notice of funding availability and solicitation of applications for the Capital Assistance to States - Intercity Passenger Rail Service Program.⁴ The authority for this program is found in the Transportation, Housing and Urban Development, and Related Agencies Appropriations Act, 2008 (Division K of Public Law 110-161 (December 26, 2007)). This act provides \$30 million and directs FRA to award one or more grants covering up to 50 percent of the capital investment cost necessary to support improved intercity passenger rail services. States may apply and eligible projects must primarily benefit intercity passenger rail service.

Non-U.S. Department of Transportation Programs

Also, there are programs not administered by the U.S. Department of Transportation from which – under certain circumstances – passenger rail transportation projects may be funded.

For example, the Economic Development Administration in the Department of Commerce administers grants to public works projects in areas experiencing substantial economic distress and in areas under threat of serious economic structural damage.

As another example, a U.S. Department of Agriculture Rural Development Grant was

⁴ This discussion is taken from the Federal Register, Volume 73, Number 33, Tuesday, February 19, 2008, pages 9162-9165.

used to renovate a railroad spur in order to improve economic development in Ohio.

Selected Examples of State Use of Federal Funding

Under SAFETEA-LU, the States of Maine and Oregon have continued to use CMAQ funding to offset operating costs of state-supported, Amtrak services.⁵

SAFETEA-LU authorizes \$80 million to build a commuter rail line between Minneapolis and Big Lake, Minnesota. This \$80 million is part of \$132.5 million which the Northstar Corridor Development Authority expects to receive from the federal government for the \$265 million project.⁶

Energy Independence and Security Act of 2007

In the May 2 meeting at City of Howell, Ms. Chong Anna Canfora said that there are \$50 million in grants available in the Energy Bill for short line railroad improvements.

Section 1111 instructs the Secretary of Transportation to implement a competitive grant program for railroad carriers and state and local governments to: (1) assist purchases of hybrid or other energy-efficient locomotives, including hybrid switch and generator-set locomotives; and (2) demonstrate the extent to which such locomotives increase fuel economy, reduce emissions, and lower costs of operation. The federal share of such program is set at a maximum 80 percent.

Section 1112 amends federal transportation law to instruct the Secretary of Transportation to establish capital grants for class II and class III railroads to implement track capital projects, and requires a report to certain congressional committees on whether the program: (1) helps promote a reduction in fuel use associated with freight transportation; and (2) demonstrates innovative technologies for increased fuel economy, reduced greenhouse gas emissions, and lowered operation costs. The Act authorizes appropriations for fiscal years 2008 through 2011.

Homeland Security Funding

Many transit operators receive Federal assistance for purchasing or upgrading communication equipment.

State and Local

Likely state funding is discussed above, under "Revenues".

There are numerous means to raise local funding to support a passenger rail transportation project, subject to state law and voter approval where required, for

⁵ "Rail Projects in Highway/Transit Reauthorization," *National Association of Railroad Passengers News*, October 2005, page 2.

⁶ "Divvying up SAFETEA-LU dollars," *Progressive Railroading*, September 2005, page 14.

example, general obligation bonds, tax increment financing, transit tax, sales tax and property tax. Sometimes local municipalities are asked to fund their stations and parking. In California, for example, local funding has been sought and obtained in connection with collaborative track and station projects sponsored by local communities.

A “Business for Better Transportation” initiative in the State of Michigan advocates permissive legislation to allow county governments the ability to propose transportation taxes and fees, in order to help solve transportation funding problems in the state. The Business for Better Transportation proposal includes local option gas and diesel taxes, vehicle registration fees, license fees, property transfer fees and sales tax up to one percent.

State Category A TEDF funding based on the number of jobs preserved in the corridor, and Transportation Enhancement funding to fund some of the station related landscaping and other aesthetic aspects, are additional possibilities.

It is understood that draft by-laws of the Washtenaw and Livingston Line Regional Transportation Authority proposed before the Washtenaw County Board of Commissioners in September 2007 include a provision for taxing authority in which the Board would have to approve such a measure, limited to a maximum of five mills for five years except for projects that involve “fixed guide way” systems which may be levied for a twenty-five year period. Once approved by the Board, the millage question would have to receive a majority vote by those voting within the service area. Additionally, the incorporating public bodies, by a vote of their legislative bodies, could withdraw from the Authority subject to certain legal restrictions, if they did not wish to see their areas subject to the levy.

Private Funding Sources

There are private interests which may benefit from new or expanded passenger rail service. Private developers may be willing to fund passenger station improvements in return for the opportunity to provide private development (offices, homes, retail) in the vicinity of the station.

Examples of Revenue Sources Used by Similar Services

Other commuter rail services which have initiated operations over the past two decades have used a wide variety of federal, state, local and private funding sources. The federal sources cover the gamut of those listed above. CMAQ funding was used for a commuter rail service (now defunct) in Burlington, Vermont. CMAQ funding currently supports the Boston-Maine Downeaster. Long term use of CMAQ as a funding source needs to be tied to the continuation of the CMAQ program at the national level and increased funding levels.

The Harrisburg-Philadelphia service was funded in part with FTA operating funding. New Start Funding for commuter rail is problematic because of its relatively low

ridership density. State funding provides the majority of support for California's model intercity passenger rail operations. Nationwide, numerous state funding sources are used in various commuter rail services. Local and private funding have been utilized to construct stations. Metrolink (Los Angeles) provided the standards and specifications, and the local communities funded their stations. In Northern Virginia, private developers offered to build stations serving their developments.

Conclusions

Review of Wally Business Plan

The Wally Business Plan as represented in Table 1, which reflects revisions by RLBA, projects operating shortfalls in every year for ten years, as did the original February 2008. This is not unusual in public transit operations. Indeed, virtually every public transit system in the world requires public investment to sustain it.

There is no committed funding source for the capital expenses needed to build the track, signal, and station infrastructure need to launch an operation which will attract, retain and increase numbers of riders. RLBA recommends that the Coalition take steps to seek funding from federal, state and local sources. With regard to the latter point, RLBA has identified examples (Nashville, Tennessee's Music City Star; Virginia Railway Express; and New Mexico's Rail Runner Express) of municipal and county governments providing annual operating subsidies from their regular budgets, or providing the land and funds necessary to construct station facilities and parking. Operating subsidies from local governments have a high level of uncertainty associated with them unless they are supported by a specific on-going funding source.

Potential Funding Sources

There are many potential federal funding sources. All likely avenues should be investigated. The current federal surface transportation authorization expires in September 2009. Given the increasing use of earmarks nationwide, the Wally Coalition may wish to discuss this subject with its Congressional Delegation.