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1 Introduction and Policy Context

This is the Final Report for the **Saint Paul Union Depot Analysis**. The Analysis is the second in a series of studies undertaken by the Ramsey County Regional Railroad Authority to assist it in developing a concept for a multi-modal transit facility. The facility, to be located in Downtown Saint Paul, will serve as the major local and regional transit hub for the east Metropolitan Twin Cities Region, and also provide for both a relocated AMTRAK station and an eventual terminus for commuter trains and Midwest High Speed trains. For the past year and a half, these studies have been guided by the “LOCATE Task Force”, a steering committee composed of a diverse group of elected officials, civic leaders and other stakeholders who have responsibilities and interests in the multi-modal terminal, in the development issues inevitably associated with such a terminal, and in the successful implementation of the various modes of public transportation that would serve the terminal. A subgroup of the LOCATE Task force, the FIND Committee, has served two important functions: it has provided a working-committee-level forum in which various ideas can be vetted before being brought to LOCATE, and, second, it has served as an excellent source of information regarding real estate issues and costs.

These two studies have been undertaken against a background of several other rail and transit-oriented studies and projects being pursued in the Twin Cities Metropolitan area. While it is well known that transportation planning studies have been under way in the region for several decades, it is in recent years that a group of focused planning projects have brought rail and other transit issues to the forefront of public attention. Among these are the MnDOT Commuter Rail studies and plan (Figure 1-3), the Central Corridor light rail and commuter rail planning studies, studies of commuter rail service in the Red Rock and Rush Line corridors, the Hiawatha Light Rail project, and the Northstar Corridor Commuter Rail studies and project development. As key elements of what could eventually be a complete system of regional mobility provided through a coordinated light rail, commuter rail, and bus system, all of these affect Ramsey County directly or indirectly, and raise the question of how they will connect to one another in Saint Paul. Another important influence has been the high speed rail proposals under development by the Midwest High Speed Rail Coalition, which identify Downtown Saint Paul as the Twin Cities area terminus.

Outside the field of rail planning per se, broader planning studies have been setting the context for establishment of a multimodal terminal at Union Depot. The Lowertown Redevelopment Corporation’s “Urban Village Vision” puts a strong emphasis on Union Depot’s “...redevelopment as a multi-modal transportation and civic center...” The City’s recently adopted “Saint Paul Downtown Redevelopment Strategy” places more effective use of public transportation at the center of its policies on movement; the document specifies an aggressive doubling of transit ridership in Saint Paul by 2020 as a goal, and also supports redevelopment of Union Depot as a multimodal hub. Central Corridor (University Avenue) light rail planning has assumed that its Saint Paul terminus will be

located at the Depot. Clearly, the planning and policy support for this project has been broad and extensive.

In 2002, LTK Engineering Services was engaged by the Ramsey County Regional Railroad Authority, with the guidance of LOCATE and FIND, to prepare an evaluation of four alternative sites in the Downtown Saint Paul area which might accommodate such a facility. Based on consideration of a set of transportation-related criteria, that study's work, summarized in two documents (Saint Paul Multimodal Terminal Evaluation Study, Final Report - October 2002, and Addendum to Final Report – November 2002) recommended the Union Depot site for the multimodal terminal. Taking that work into account, LOCATE recommended to the Ramsey County Regional Railroad Authority that the Union Depot site be selected for development into a multi-modal facility, a position subsequently adopted by the Authority.

In 2003, the Authority engaged LTK Engineering Services, in association with four specialized sub consultants, to conduct further technical analyses and concept refinement. The associated consultants include:

- Bloom Consultants, LLC, structural engineers to assist in evaluation of structural issues related to the depot concourse rail infrastructure
- Nancy Whelan Consulting, to provide support in financial analysis and planning
- Richardson, Richter & Associates, Inc., for assistance in analysis of institutional issues
- Zimmer Gunsul Frasca Partnership, architects specializing in public buildings and spaces, with significant experience in transit terminals and specifically in Lowertown Saint Paul

Building on the previous work, this Analysis continues from the decision to locate a multimodal terminal at Union Depot, and outlines for the Authority a concept that shows how all of the modes planned to serve Saint Paul could be accommodated and organized there in a way that maximizes intermodal connectivity. It includes and illustrates a calculation of the costs associated with developing the terminal. It lays out one way that a phased development program might actually occur. It considers organizational and institutional models, and outlines a financing strategy.

As will be noted in subsequent sections of this Report, a major issue, doubtless the single most significant issue associated with the development of Union Depot as a multi-modal terminal is the present ownership and use of most of the essential parts of the depot complex by the U. S. Postal Service. The relocation of the present bulk mail handling and trucking operations now located at the Downtown Saint Paul postal facility to another site has been a matter of public discussion for some time. This report does not address the relocation issue per se; rather, it assumes that the relocation has occurred as a result of public policy objectives which may include but exceed the considerations of the

multimodal terminal alone. An imputed value of the real estate is identified in the section on capital cost estimates, but the post office relocation cost itself is considered extraneous to the terminal's cost.

2 Background and Descriptive Summary

In approaching the development or re-development of Saint Paul Union Depot into a multi-modal terminal, it must be recognized that the Depot is really a complex of facilities and elements that are ultimately designed, as all great railroad stations are, to accomplish one main objective – to bring large numbers of people from the city into close proximity to trains. It is often difficult to accomplish such an objective in an urban setting, where land may be expensive and topographic constraints significant. As Carl Condit noted in his history of Cincinnati Union Station in The Railroad and the City:

If designers agreed that the ultimate aims of internal planning were the convenience of the passenger and the maximum efficiency of train and station operation, they soon learned that the realization of these aims in practical terminal design involved widely ramifying complexities. A large railroad station is in fact a megastructure, or indeed, a microcity, that embraces a great multiplicity of elements divided between those introduced for the comfort and convenience of the passenger on the one hand and those essential to the movement of trains and the servicing of cars on the other (for example, providing steam lines and electrical conduits to maintain heat and power in parked cars). The internal facilities of the well-designed metropolitan terminal of 1910 included waiting rooms, ticket offices, baggage-checking counters, baggage rooms, toilets, drugstore, newsstand, restaurant and bar, lunch counter, special rooms for invalids, aged immigrants, and women with small children or infants, telephone and telegraph centers, information center, first-aid room, stairs, elevators, concourses, street entrances and exits, special entrances and exits for subways, elevated lines, and streetcar lines, entrance and exit drives for automobiles and taxis, in addition to offices for the terminal company, the stationmaster and his staff. The ideal arrangement – and there were nearly as many solutions as there were stations – was to place entrance, waiting room, ticket offices, baggage-checking counter, passenger concourse, train concourse, train gates and platforms in as close to a linear series as possible, but the dimensions of the site as well as its size and double-level plans usually prevented a complete realization of the ideal.

In this abstract dissection of the elements which, in a logical series, compose the “ideal” sequential experience of the traveler from city street through front door to train side, Condit might well have been describing Saint Paul Union Depot almost exactly. This should not be surprising, for Union Depot was the product of a master’s practiced hand. With a ready background in public architecture of all kinds, Charles Sumner Frost, in partnership with Alfred Granger after 1910, made something of a specialty of railroad terminal design. Among these were Omaha Union Station, and two truly great stations in Chicago: La Salle Street, and Northwestern Terminal. Frost also designed the Milwaukee Road’s Minneapolis depot, but in the Twin Cities he clearly conserved his best efforts for Saint Paul Union Depot.

The present “new” Depot replaced an earlier, inadequate version located closer to the river, which had suffered two fires. Naturally, the new facility was built without interruption of the intense passenger service of the period. The Headhouse was opened on April 5, 1920. Various sections of the terminal remained under construction until 1926. In the 1920s, the Depot was served by some 282 daily trains, and was used by more than 20,000 passengers per day. These were primarily intercity or “hinterland” trains and passengers. Saint Paul did not have a large scale commuter service; that function, to the degree it existed, was performed primarily by the longer suburban streetcar routes of the Twin Cities Rapid Transit Company.

The Depot, like its predecessor, was built and owned by the Saint Paul Union Depot Company. This was a Minnesota corporation, owned in equal shares by the railroads (nine of them at the height of operations) whose passenger trains served Saint Paul. The company had an independent management, with a focused responsibility for the construction, operation and financing of the facility, including not only the buildings we see today but miles of track, platforms, umbrella sheds and switching locomotives. Charges to participating railroads, analogous to today’s airport landing fees, went towards debt service, operations and maintenance. Thus, unlike Minneapolis, where “owner” railroads had stations, with other railroads as tenants, Saint Paul proceeded somewhat as it has with its Skyway development over the years, emphasizing a planned, coordinated and collaborative approach to major transportation facility development.

After the discontinuance of all passenger train service to Saint Paul in 1971, Union Depot fell vacant. Over time, the assets of the Depot Company were liquidated, and the real estate and Depot buildings were sold. It was in this period that the ownership of the Headhouse was severed from that of the concourse and track support structure. The Headhouse was sold to a private developer. It was closed off from the concourse by construction of a wooden wall at the concourse entrance, approximately on the north property line of Kellogg Boulevard. The structures to the south became property of the Postal Service. The station track area between Kellogg Boulevard and the freight tracks paralleling the river was further subdivided; the section west of Broadway went to the Postal Service for truck circulation and bulk mail handling. Broadway itself, which had terminated at Kellogg, was cut through the track support slab on a gradient to provide an access ramp for Postal Service trucks. The other parts of the property were sold to other parties.

2.1 The Headhouse

When people think of Saint Paul Union Depot, the image that most readily comes to mind is surely the very fine façade facing Fourth Street between Sibley and Wacouta Streets. The austerity of the design the Depot presents to the city suggests a desire to emphasize functionality within the monumental vocabulary of neo-classicism. (Figure 2-1) With its chaste and dignified Tuscan colonnade, 150 feet long, and almost severe simplicity of ornament, the Depot’s freedom from Beaux Arts excess may reflect its relatively late appearance in the period of baroque railroad termini, or perhaps Frost’s practical

background as scion of a lumber mill owner, education at MIT, or personal immersion in the engineering-dominated culture of railroading (in addition to his many railroad station commissions in the Midwest, Frost's father-in-law was President of the Chicago and Northwestern Railroad). Whatever the inspiration for the design, the ensemble of columns, forecourt and park, and lofty Great Hall are among Saint Paul's greatest civic monuments, and were obviously intended to impart a sense of grandeur to even the most mundane journey.

With overall dimensions of approximately 150' x 300', the Headhouse incorporated on its ground floor ticketing and related back office functions, men's and women's rest rooms and lounges, a barbershop, restaurant, lunch room, two news stands, drug store and soda fountain, parcel check room, information counter, and a telecommunications center (telephone and telegraph). Two floors of office space were provided above the sky-lighted Great Hall. A driveway between Sibley and Wacouta Streets, with a lower level entrance to the building located below the steps leading up to the colonnade and main Fourth Street entrance, provided another access point and cab stand.

Fortunately, the basic structural elements which provided for these functions are still present in the Headhouse, although, of course, the specific facilities, uses and fixtures have long since disappeared. Within the limitations of time and budget available for their examination, these elements appear to be sound. The large open spaces of the Fourth Street level of the Headhouse provide space today for two large restaurants and two small cafes, and an entranceway to the Saint Paul Skyway system. Stairway and elevator access to the floors above, where office space is leased out, are provided at two points. Parking is located below in former post office and basement space.

2.2 Bridge and Concourse

If the Headhouse was Union Depot's living room, a self-sufficient middle ground where the public moved from the world of the city to the world of the railroads, the train activity itself was concentrated adjacent to the railroad mainlines south of Kellogg Boulevard. To connect the two functions, a 45-foot wide entrance passage to the Concourse and waiting room was constructed as a bridge (Figure 2-2) over Kellogg Boulevard, which is at a lower level than Fourth Street in this part of Downtown. In order to provide sufficient clearance over the tracks, which were laid on a reinforced concrete slab at an elevation above that of the adjacent Kellogg Boulevard, the floor of Concourse itself is about 2 ½ feet higher than the floor of the Great Hall. Consequently this bridge is built on a slight grade; it rises the necessary 30 inches over a distance of about 100 feet between the south access portal of the Great Hall and the south building line of Kellogg Boulevard, an easy grade of approximately 2 ½%.

Offices and a smoking room were located to the east of the 45-foot clear passageway of the bridge, and thus partially over Kellogg Boulevard. On the west side was the baggage checking room (Figure 2-3). Having been ticketed, passengers would flow towards the Concourse, and pass this point, checking bags if they wished to do so. The bags taken

from passengers at this point were sent down a chute (Figure 2-4) and then distributed by carts to the baggage cars of the appropriate trains. The wall currently separating Post Office space from the Headhouse is located at the north end of the Bridge (Figure 2-5).

One additional interesting structural feature is worth noting here. The ceiling of the bridge consists of a series of transverse barrel vaults constructed using the Guastavino thin-tile vaulting system. This was a technology favored by Frost, who used it extensively in the now wantonly destroyed Headhouse of the Chicago & Northwestern Terminal Station in Chicago, where it supported the floor of the waiting room and a large adjacent area, a total of more than 25,000 square feet. As Carl Condit notes in his technological history Chicago, 1910-1929, the Guastavino system, based on Catalan and Byzantine precedents, "...uses two or more layers of terra cotta tiles laid in a herringbone pattern in such a way as to stagger the joints and orient the tiles in one layer at a 90-degree angle to those below and above it. By using enough strong mortar to constitute 50 percent of the total mass, Guastavino was able to obtain a load-carrying capacity well above that of conventional masonry vaulting (up to 300 pounds per square foot) with a marked reduction in weight. Moreover, the thick beds of mortar give the whole mass a plasticity that allows it to shape itself in response to the loads upon it, thus tending to limit it to rigid membrane action alone. An additional advantage derived from the pattern of the tile is that vaults can be erected without formwork". This is one of what must be very few Guastavino tile applications in the Twin Cities area.

The bridge emerged into the Concourse (Figures 2-6 and 2-7), which provided the dual purpose of waiting room with benches, and sorting area for the nine gates connected to platforms below. The platforms each served two tracks, a total of eighteen. Access to and egress from the platforms through the nine gates (Figure 2-8) was accomplished only on the east side of the Concourse, so that passenger circulation was concentrated to that side of the room, speaking longitudinally. The western half of the Concourse is where the waiting room benches were located. The Concourse is a large space, at 80 feet wide and 300 feet long, with a barrel-vaulted ceiling and skylights (Figure 2-9). It is finished with decorative plaster work, and a frieze depicting the history of transportation (Figure 2-10).

Structurally, subject to the limitations of time and budget for their examination, the bridge and Concourse appear sound. Walled off from the Great Hall, the Concourse is almost never seen by the public, and is used for storage purposes by the Postal Service. There has clearly been water damage and weathering, and spalling of the exterior brick work is also obvious. Inside, the decorative plaster work needs extensive restoration work, as do the skylights and other features. With the exception of the stairs and elevator at former Tracks One1 and Two, the vertical circulation fixtures (stairs, elevators, escalators) connecting the Concourse with the platforms below have all been removed in order to provide space for post office operations. Still, the entire space is remarkably intact, and the Concourse itself is no less an impressive public space than the Great Hall.

2.3 Track Level

The track level, based on a reinforced concrete slab approximately 19 feet below the floor of the Concourse, was the location of two essential interfaces – the interface of people and trains at the nine platforms, and the interface of station tracks and railroad mainlines at the east and west terminal throats.

Of the 18 tracks, the eight tracks on the north side, closest to Kellogg Boulevard, were stub tracks, served only from the east; the ten tracks to the south were through tracks, making it possible for trains to approach Union Depot from either direction. Many trains operated through the Depot, making a continuous through move from east to west or vice versa, but because of railroad line ownership patterns and passenger train trackage rights, the majority of train movements used it as a stub terminal, arriving and departing on the east side of the Depot. This meant that a great many trains, including all through trains between the Twin Cities and Chicago using the Great Northern-Northern Pacific-Burlington route, and those using the Chicago and Northwestern, had to be turned around with a “wye-ing” movement in the great triangle of tracks located in the valley to the east of Downtown Saint Paul. This meant a lot of train movements had to be accommodated, and led to a very impressive layout of tracks east of the Depot, occupying a significant tract of real estate.

The Depot tracks were typical wood crossties-and-ballast construction, with the ballast placed on top of the reinforced concrete slab. The slab itself is supported by large, regularly spaced concrete pillars, which are readily visible today to those parking under the track-level slab south of Kellogg Boulevard. It appears that the basic structure is sound, and usable for railroad purposes. The platforms themselves were concrete shells built on the basic slab. It is believed that they remain buried below the asphalt fill which was applied over the entire track area below the Concourse when it was converted for postal service truck circulation.

Tests need to be performed on the structural elements of the track support system to verify both strength and condition. However, based on limited examination to date, and consideration of the loads for which the slab and columns were designed and to which future rail service would subject them, there appears to be no reason to conclude that the track support system would not be suitable for the rail and other program elements.

The extent of the track support system, from Sibley to Broadway (west to east) and Kellogg to the River levee (north to south) make this a very substantial structure. While likely to be adequate for the program elements deployed at that level, it is not yet clear how air rights development could be carried out above the track level. The existing support pillars would not support buildings in addition to the track slab and piercing the slab to install separate foundations may not be feasible. This is an issue that needs to be thought through carefully as part of the railroad civil design phase, before track and platform reconstruction are actually carried out. If substantial structural modifications are needed for future air rights development, they will be a good deal less expensive and disruptive if carried out in advance of service restoration. No costs have been provided in

the current estimates for such modifications, but provision has been made for direct fixation track on the slab to maximize available clearances and reduce vibration in any structures built over the track level. Even with direct fixation track, clearances between the top of the slab and the bottom of the Concourse do not meet modern freight standards, but will be adequate for passenger rail, including future electrification.

3 Transportation Program

In any significant urban project or architectural design, an elementary step is the establishment of a “program,” a listing of the elements or functions which the project is to serve or contain. The program for the Union Depot Analysis was initially developed for the locational studies of the Multimodal Terminal in 2002, as a basis for resolving the question of the optimal terminal site. It was subsequently presented to the LOCATE Task Force in July 2003, and adopted as the basis for preparing recommendations on terminal development. This section of the Analysis has a simple purpose – to record in one place a listing of the elements of the transportation system that are to be incorporated into a design concept for the Saint Paul Union Depot Multimodal Terminal, together with some of the guidelines, dimensions, expectations and restrictions that go along with them.

The larger purpose of the Multimodal Terminal at Saint Paul Union Depot is, of course, to enhance the life, economy and culture of the metropolis. In order for it to be able to do so, however, it must be able to effectively perform its vital function as a hub of transportation for the Twin Cities Region, the State of Minnesota, and the Upper Midwest. This Terminal can be the portal from one mode to another, from one city to another, from one region to another, but the successful performance of that lofty goal must be based on the effectiveness with which the Terminal “works. Following in outline form is a listing of the program elements needed to make the terminal ‘work.’”

While it may be difficult to envision how busy the now empty facility could become, St. Paul has only to look at the depot restoration projects in other great cities for examples of how successful such restorations have been. The growth in rail passenger patronage, for example, in the region around Los Angeles Union Passenger Terminal, once thought of as an automobile bastion, now far exceeds the growth of the general economy. Such growth comes in spite of a soft economy and investments in rail passenger service that are quite modest by highway standards.

3.1 Freight Railroad Trackage

- Three existing freight tracks (2 Canadian Pacific, 1 Union Pacific) remain fixed on current alignment (Figure 3-1).
- Assume, to accommodate growth, space for one additional freight track to be built at some point north of the existing Union Pacific track.
- Selective grade separation of passenger and freight trackage may be required. An example is a grade separation to resolve conflicts between Red Rock commuter and Midwest High-Speed trains approaching Saint Paul from the southeast near Dayton’s Bluff, and the intensive freight operation turning north at Hoffmann Avenue.

3.2 Passenger Trackage

- Terminal trackage will be designed to accommodate: Red Rock Corridor (Hastings-Saint Paul-Minneapolis), Rush Line Corridor, Midwest High Speed trains, and Conventional AMTRAK service. It is assumed that these services will be implemented, and that the consequent volume of trains will grow, suggested in Figure 3-2.
- If all services are implemented, 5 tracks would be required for regular service, assuming a through terminal rather than a stub terminal arrangement, and providing for schedule protection.
- Subsequent conversations with AMTRAK and operational indicate need for two tracks for switching, storage of business and private cars, and accommodation of switching, special movements, and special events. The total programmatic requirement is therefore 7 tracks and is depicted schematically in Figure 5-4 as well as scale in Figure 5-6.
- Trackage and platforms should be designed to accommodate the longest trains – 1200 feet.
- Commuter service is to be provided through the nominal use of common bi-level commute equipment, or equivalent. Clearances should provide for this equipment.
- Possibility of future electrification of passenger service, especially for high speed, should be taken into account in design.
- All Amtrak functions now provided at Midway Station must be accommodated at Union Depot, including train servicing, switching of mail cars, checked baggage service and package express, in order for Union Depot to replace Midway Station.
- Conversations with AMTRAK, and observation of terminal and switching operations at Midway Station, lead to the conclusion that a minimum of four tracks would be needed to replace AMTRAK's present Midway operation of the "Empire Builder" in its entirety.
- In introducing new passenger tracks and platforms, clearances between passenger facilities and freight railroad trackage must respect FRA and freight railroad company design criteria.
- Vertical circulation between the Concourse and track level, removed when the Depot was closed in 1971 (Figure 3-2), must be restored and comply with current requirements.

3.3 Metro Transit Light Rail (Central Corridor)

- As layover and recovery time are likely to exceed the peak headway, a minimum two-track terminal will be required, with independent access and egress. Storage should be provided for two additional trains, at the platforms if possible.
- A minimum platform length of 600 feet (two three-car trains) is required. Minimum widths are 10 feet minimum for side platforms and 15-20 feet for island platforms.
- Provision must be made for track connections to Fourth Street westbound, for future eastward extensions in Saint Paul, and to a future satellite storage facility east of Downtown.

3.4 Metro Transit Bus

- Provision must be made for seven routes at the Terminal.
- The required configuration is for saw-toothed bays, four configured for articulated buses (85 feet), and three for standard length (65 feet).
- The required platform clear width is ten feet with an additional 31-foot wide minimum parking and a passing lane.

3.5 Intercity Bus

- There is a long-term need for five bays for use of Jefferson Lines, Greyhound and future carrier, charters or contracted Amtrak-bus service. Straight curb platforms are required at 70 feet per bay.
- The platform clear width requirement is a minimum 10 feet.
- Provision must be made for checked baggage and package express services.

3.6 Parking

- Convenient parking should be provided to support long-distance travel and package express (bus and rail) pick up and drop off.

3.7 Taxi Service

- Adequate space for taxicab standing, pickup and drop-off should be provided.

3.8 Pedestrian Connections

- Adequate space must be provided between the transportation nodes in the Terminal, platforms, and the street and skyway system. In the event of a public/private partnership approach to Terminal ownership and management, sufficient room to accommodate peak pedestrian flows, as well as off-peak access, must be provided for.

3.9 Support Requirements

- Space for support requirements, such as ticketing, waiting areas, and employee rest areas should be based on carriers' criteria, and the higher end of the range of standards for such facilities.

4 Concept Description

The proposed concept for the multi-modal terminal is based on the idea that the multi-modal transportation terminal's transportation program can best be accommodated at Saint Paul Union Depot by using the Depot's original layout, form and structure to the greatest degree possible. With this approach, all modes can benefit from the terminal's efficient design flow and from the Depot's connectivity to the city center, comparable to that enjoyed by railroad passengers in the original plan. To illustrate the concept definition, both plan (Figure 4-1) and sectional views (Figure 4-2) of the Depot are included.

4.1 Overall Plan

The proposal in this concept is to reuse the structural slab of the railroad level as the location for all modes serving the multimodal terminal, not only the three classes of railroad passenger service in the program, but also the others – intercity bus, Metro Transit bus and light rail. All modes will be at the same (hereinafter referred to as “track level”) level, and serve platforms reached from the Concourse. There will be nine platforms, with historic reuse of the platform access gates on the east side of the Concourse. Modern information systems will be refitted to them, using the historic frames, compatible recreations or complimentary new designs. Vertical circulation elements will be reconstructed to meet modern accessibility requirements, and in keeping with the historical architecture.

It is proposed that in the initial phases, the may remain in private ownership and its present use, with access, maintenance and use agreements, as required, negotiated with the owner, who has indicated openness to an approach of this type. In that case, the restaurant use of the former ticketing area would presumably continue for some time. Fortunately, there is sufficient space in the bridge and Concourse area for ticketing and baggage handling functions for AMTRAK and intercity buses. As shown in Figure 4-1, it is proposed that the former baggage area on the west side of the bridge be used for AMTRAK ticketing and baggage checking space, while the comparable location on the east side is used for intercity bus system ticketing and baggage functions. In both cases, backup space for a baggage area may be necessary, but it appears that ample opportunities exist to accommodate this in the structures and real estate acquired for Phase One purposes.

For convenience of this discussion, it will be assumed that platforms are numbered one through nine, with Platform One being that closest to the , and Platform 9 being the one at the south end of the Concourse. The following illustrative discussion begins at the south end with the railroad platforms, and moves north through the other modes to the Intercity bus service at Platform One.

As railroad cars and light rail vehicles are double-ended and have doors on both sides, they can serve either side of a platform, and approach it from either direction. Consequently, all rail platforms can be “island platforms,” and load trains on both sides, as was done historically at Union Depot. This is a very efficient use of space. Buses, on the other hand, are designed for street and highway use and can only load passengers on the right hand side. Consequently, with the one-way bus circulation planned for the track level, only one side of a passenger platform can be used. It is assumed initially that bus circulation will be clockwise, i.e. from east to west on the track level, and therefore all bus platforms are initially being planned to load on the south side only. The additional paved space between the buses at the platform and the edge of the opposite platform will be used as a passing lane, with moving buses able to pass others stopped at the platform. This makes possible independent arrivals and departures of buses at platforms, a desirable feature of the transportation program which provides scheduling flexibility for the bus operators.

4.1.1 Rail Passenger Service

The railroad passenger service can be handled on seven tracks served from the four southernmost platforms under the Concourse (Platforms Six through Nine). Subject to confirmation of railroad passenger routings in studies yet to be completed, it is assumed here that all of these tracks will be configured for through train movement, and that they will be connected into both the east and west terminal throats; this presumes use of the Canadian Pacific’s ex-Milwaukee Road “Short Line”, presently used by AMTRAK for the “Empire Builder” trains, as the route for Red Rock commuter trains between Saint Paul and Minneapolis. If a BNSF alignment for Red Rock trains is ultimately selected, track requirements at Union Depot will have to be re-assessed. Platforms serving intercity rail tracks will be equipped with 480 volt stand-by power and water cabinets. Toilet dumping for intercity trains, if it is required, will have to be done off-site.

An initial conceptual assignment of platforms places AMTRAK intercity and Midwest High Speed trains on the four tracks at Platforms Eight and Nine, Red Rock commuter trains on the two tracks serving Platform Seven, and Rush Line trains on the track serving the south side of Platform Six.

4.1.2 Light Rail

In the most recent light rail planning and engineering work, it has been proposed that Central Corridor light rail trains in Downtown Saint Paul operate south on Cedar Street to Fourth, then east on Fourth to Union Depot. The conceptual proposal has been to have trains terminate in a three-track terminal in front of Union Depot on Fourth Street between Sibley and Wacouta Streets. However, in order to provide more direct transfers between light rail and other modes, the multimodal terminal concept proposes to relocate the light rail terminal from Fourth Street to the track level of Union Depot, accessed, like other modes, from the Concourse level by escalators, elevators and stairs, or by cross-

platform transfers to the degree possible. Models for this light rail/commuter rail transfer arrangement can be seen at Dallas Union Station, and at San Diego's Old Town Station.

To accomplish this kind of transfer in Saint Paul, the proposed Central LRT alignment would be modified. From Fourth and Sibley, instead of continuing eastward into a three-track terminal in front of Union Depot, the line would make a turn, potentially difficult, south onto Sibley, follow Sibley one block to Kellogg, then ramp up to the track level at the southeast corner of Kellogg and Sibley, on a new grade running through the area now occupied by the Post Office Loading Dock Building. At the track level, light rail could occupy the area between Platforms Five and Six; Platform Six would be shared with the Rush Line Commuter trains.

4.1.3 Metro Transit

Continuing to the north, Platforms Four and Three would serve Metro Transit buses, including a proposed Riverview-Airport-Mall of America high-quality bus service, featuring frequent operation all day and, possibly, a "signature" vehicle.

Platform Two would be available for limo or shuttle services of other carriers, and for special services, and to provide for growth. Alternatively, this space could be considered for a track-level approach to taxi service, though there could be circulation problems associated with that idea. If more tracks are needed, or, for example, if it were determined that light rail would be better served with an island platform rather than two side platforms, the program would shift northward and occupy more space; this would be available for such a contingency.

4.1.4 Intercity Bus

Platform One would be for the use of intercity buses – Greyhound and Jefferson Lines. The Concourse gate to Platform One is very conveniently located near the proposed intercity bus ticket and baggage area, and intercity bus users would find the arrangement highly convenient.

4.1.5 Parking

Union Depot already has a very large parking supply available, much of it in public use. Several hundred spaces are available in the alone, with hundreds more, mostly vacant today based on observation, under the track level. As more detailed design goes forward on the multimodal terminal, this space can be rationalized and parking supply, now quite large, brought into line with actual calculated demand, while provisions are made for other functions that may need some of the area now used for parking, as well as provision for supporting structure for potential air rights development. In all likelihood, parking will remain in both structural areas, perhaps with specialized functions and differential

rates. As development goes forward in Lowertown, parking can also be addressed as part of a more comprehensive plan for the area.

4.1.6 Vehicular

Like parking supply, several options exist for taxi service. The circular drive in front of the Depot is potentially an obvious target for arriving cabs, but a better alternative might be the below-grade porte-cochere arrangement beneath the colonnade steps. This was apparently the original location for the taxi stand; it could be combined with a parking area specifically dedicated to purposes, and/or office tenants. In this way, the circular drive could be left for automobile passenger drop-offs and pick-ups. Such an arrangement might have to await a later phase, in which acquisition of the Headhouse as part of heavier terminal patronage might take place, although a possible interim agreement with the private owner should not be ruled out. An alternative, perhaps an interim use, might be to put taxis at a platform on the track level. This approach has some advantages in convenience, but it could introduce a large number of less-fully-controlled drivers into the transit circulation at track level. With appropriate supervision, however, it might work.

4.1.7 Pedestrian

In general, pedestrian access to these modes from the city will be from the Fourth Street level and main entrance, or via the Skyway system and the Great Hall, then through the Concourse, and down to track level using new vertical circulation facilities (escalators, elevators, and stairs). However, in order to make intermodal transferring easier for most terminal customers, it is also proposed that some at-grade transfers be permitted by providing a pedestrian crosswalk underneath and parallel to the north-south axis of the Concourse, and connecting Platform 7 at grade with Platforms 1 through 6. As Rush Line trains will terminate at the depot, a bumper post could be installed on the Platform 6 south track, just east of the crosswalk. The only active railroad track which would have to be crossed at grade by pedestrians would be the Platform 5 north track, used by Red Rock trains. It should be possible to perform a hazard analysis and develop a series of safety mitigations, such as pedestrian crossing warning devices, to permit the establishment of this convenience. Alternatively, platform assignments could be adjusted from this to another arrangement in order to favor the single heaviest transfer movement, and avoid the at-grade crossing.

A final issue relative to pedestrian access is the opportunity for a supplemental Science Museum commuter rail stop. While Downtown Saint Paul is relatively compact and convenient, and has a walker's scale and a well-planned Skyway system to enhance pedestrian accessibility, Union Depot is more than a ten-minute walk from the western part of the urban core. Over time, alternative transit modes oriented to convenient short-distance trip making can be developed to enhance the range of Union Depot. However, if the CPR "Short Line" alignment is ultimately selected for the Red Rock commuter rail

service, commuter trains will run directly behind the Science Museum, just as AMTRAK long-distance trains do now. A very simple stop, with a platform, ticket vending machines, lighting and a shelter, could be erected at modest cost, with sheltered walkway access to the elevator system connecting the river level with Kellogg Boulevard above. Passengers, who are already on Red Rock trains, running to or from either the Minneapolis or Hastings directions, could use the existing elevator system, and have a relatively short walk to western Downtown trip generators. This stop would be especially convenient not only for job-related travel, but also for access to River Centre events, and cultural venues which are located generally more than ten minutes walk from Union Depot. This additional stop should be among the steps considered to meet the pedestrian access needs of the transportation program.

4.2 Phasing

The proposed multi-modal terminal is an ambitious program, and while it does not represent an extraordinary investment cost by the standards of major highway projects, it does involve significant capital sums. Just as important, it will take time for many of the prospective participating entities to develop and mature to the point that their potential accommodation in the terminal assumes center stage among their concerns. Some of the modes being considered are only in the earliest stages of development, and will take years to develop the human infrastructure to be able to talk to the Railroad Authority about physical and operational requirements. While it does not seem likely that the large and growing Twin Cities metropolitan area could meet its future transportation needs without these modes, there is no master plan at this point which lays out their development – their timing, infrastructure, institutional form, or cost. It is not, therefore, possible to be very certain about how and when all these modes will be developed, though in a larger sense it is certainly possible to be optimistic that they will, in the end, be developed, if only because they must be developed. For these reasons, one must take the long view, and recognize that it may take decades to bring all these modes into existence. For purposes of developing a multi-modal terminal to accommodate them, therefore, the time frame considered here is 20-25 years, and it is assumed that the actual re-development of Union Depot can be considered to occur in four general phases over that period.

It is assumed that Postal Service operations have been moved to a new regional location, which is a necessary pre-condition to any significant development at Saint Paul Union Depot.

There are many ways to put together the various transportation program elements and modes in a phased approach to multi-modal terminal development. Following is one logical, but aggressive phased strategy intended to bring about a complete terminal by the mid 2020s. Investment costs of each phase are illustrated in Section 5 of this Final Report.

4.2.1 Phase One

It is proposed that Phase One consist of the development of the terminal to incorporate into it existing transportation modes (AMTRAK, intercity bus, Metro Transit bus) plus one new high-priority mode – Central Corridor LRT.

- Acquire Concourse and track level; reconstruction of track level and Concourse, and reopening of Concourse-Headhouse connection; modest interim refurbishment of
- Move current AMTRAK “Empire Builder” service (Chicago-Twin Cities-West Coast) from Midway Station to Union Depot; includes relocation of all primary and support functions and switching activities; requires four tracks (Figures 5-1 and 5-5), track connections, terminal throats, two platforms
- Move Greyhound and Jefferson Lines from University Avenue; requires reconstruction of ramps and one platform
- Move seven Metro Transit bus lines from street to off-street terminal under Concourse; requires one or two platforms, ramps, traffic control
- Construct light rail connection into Union Depot at track level; requires two platforms

In the early phases of development, it is proposed that the Headhouse be left in private ownership and with its present pattern of uses, and that access and other agreements be negotiated with the owner.

4.2.2 Phase Two

In Phase Two, the first elements of a more intensive railroad passenger service are added – the Red Rock Commuter Rail service between Hastings, Saint Paul and Minneapolis

- Add one platform, fifth Depot track and track connections (Figure 5-2), signals, ticket vending machines, at-grade pedestrian crosswalk at track level; investigate second Downtown stop at Science Museum (provided CPR route is selected)
- Requires construction of rail capacity improvements between Union Depot and Hoffman Street (here assumed to be a grade separation of passenger and freight rail trackage near Dayton’s Bluff).

4.2.3 Phase Three

In Phase Three, add Midwest High Speed rail service

- Add sixth and seventh station tracks and platform (Figures 5-3), and required connections and signaling; consider third main track between west throat and Chestnut Street on CPR

With addition of high speed service, which is designed for longer-distance passengers, it is assumed that additional ticketing and support space will be required for passenger rail service at Union Depot. Accordingly, with Phase Three, it is assumed that the Headhouse will be acquired from the private owner.

4.2.4 Phase Four

In Phase Four, add Rush Line commuter rail service

- Convert east end tail track to a Rush Line connection; include a connection to the BNSF at 7th Street (Figures 5-4 and 5-6).

With the implementation of Phase Four, the 20-25 year terminal program as initially envisioned will be complete. However, it is recognized that the multimodal terminal is a living, growing thing, and that further adjustments and changes will be required as time passes. It is not possible to foresee these changes.

4.3 Temporary or Interim Terminal Arrangements

In the recent past, efforts have been made to define a temporary or interim terminal at Union Depot, the objective being to find a way to provide a Downtown railroad passenger station for AMTRAK while Postal Service operations remain. In the course of this Analysis, questions have again arisen regarding the possibility of finding a way to implement an early-action temporary station for the “Empire Builder.”

It is understandable that there would be interest in trying to find a way to stop the passenger train that already runs behind the Depot, and connect a temporary platform with the Concourse. However, evaluation of the operating requirements of the freight railroads and of AMTRAK lead to the conclusion that an interim terminal that is something other than the Phase One requirements for the accommodation of AMTRAK is not realistic. (See Figure 5-1) The issue is not whether an architectural solution tying the Concourse to a temporary platform, and making arrangements for access through it, could be achieved; that could probably be done, if that were all that would be required. Unfortunately, that is not the central issue.

The following are the main considerations:

1. South of the south end of the Concourse (Figure 3-1), and the fence separating Postal Service from railroad property, there are three railroad tracks – the northernmost is owned by the Union Pacific, the two southern tracks by the Canadian Pacific Railway. AMTRAK operates on the CPR tracks, which are part of a continuous path from the Dayton's Bluff/Hoffman Avenue area east of Downtown to Midway and the connection into the mainline to the west. There is no space for a platform between the CPR and the UP tracks. Even if it were only matter of stopping the "Empire Builder" behind the Depot, either the tracks would have to be spread to provide space for a platform and for vertical circulation (ADA accessible, of course) to and from a bridge extending out from the Concourse, or else the UP line would have to be provided with improved interconnections with the BNSF and CPR east and west of the Depot, and a platform constructed where the post office truck access road is now located. In either case, new construction would occupy the area now used by incoming post office trucks, and require a change in truck circulation, and potentially with the loading docks and mail handling methods.
2. However, it is not simply a matter of stopping the train. Even minimal stations require other functions – ticketing, baggage handling, operational supervision – which are not readily thought of, but which are essential to getting people on and off trains. These functions – and more – are already provided at Midway, only a few minutes to the west. All of them represent an operating expense. AMTRAK, which is in difficult financial circumstances, is not in a position to adopt a policy of duplicating station functions at two stations only a five miles apart within one municipality; indeed, its policy for long-distance trains is generally to try to consolidate stations in order to reduce operating costs and speed up the trains – thereby making them more attractive to potential customers, and generating more revenue. AMTRAK has clearly indicated that it is willing to consider a relocation of Midway Station to Union Depot provided all of the functions performed at Midway are relocated, and not just some of them. The AMTRAK operating budget supports one passenger station in Saint Paul; it is unreasonable to assume it will support two. Such a move must be cost beneficial to the financially strapped carrier.
3. A site visit to Midway Station at train time is quite illuminating, as it shows a lot of train activity, switching of coaches, storage mail cars and "roadrailleurs", requiring several tracks and at least 45 minutes of station time, including loading and unloading of many passengers. These functions will require at least four off-line station tracks, as has been illustrated. The railroads will not permit the "Empire Builder" to occupy mainline railroad tracks for that length of time twice a day; these tracks would be in addition to the freight tracks already there, and would extend south to and under the Concourse. Obviously this would not be compatible with continued post office operations, at least, not with present circulation and procedures. In all likelihood, even if they could be designed and

fitted into a reconfigured site, which is not a certainty, reconstructed post office facilities would be necessary.

4. It may be possible to work with the three freight railroads to establish “special event” platforms for special trains, or excursion trains, on the assumption of infrequent operation and extraordinary public events. For example, a special temporary platform for steam trains on certain summer weekends, or special trains associated with the “Grand Excursion” celebration might be accommodated – possibly more readily behind the Science Museum or in the area east of the Lafayette Bridge than at Union Depot. This is very different than establishing “temporary” AMTRAK or commuter rail station which would be operated for a period of several years. The railroads will not view such a situation as temporary, and will look for engineering solutions that are not markedly different than the railroad requirements outlined for Phase One.

5 Summary of Capital Cost Estimates

The capital cost, or initial investment cost, for the redevelopment of Saint Paul Union Depot into a multi-modal transportation terminal is significant, but not excessive in comparison to major highway projects. Over a 25-year period, the multi-modal terminal program, if constructed in full, could be expected to require \$247.5 million for infrastructure plus \$24.3 million in the estimated value of real estate. **It is important to note that these figures are expressed in year 2003 dollars.** With inflation, the actual costs in the year of construction could be expected to be larger if costs are expressed as “current” – or the cost in dollars of the year of expenditure. The project expenditure schedule is not known at this time. Consequently, to reduce some of the uncertainty about the project, all costs are expressed in year 2003 dollars.

“Soft costs” are treated generically and uniformly. Given that engineering estimates have been made at a conceptual level, a uniform contingency of 30% is added to all items. Contingencies are added for two reasons. First, when engineering is not advanced beyond the concept stage, there is uncertainty in the scope of infrastructure items necessary to complete the project. Second, the unit prices applied to the work scope have a level of uncertainty inherent with potential variations in site conditions. In addition to the contingencies, 15% is added for engineering and program management.

The capital costs for the project are presented here in two ways – first, the totals are presented for each of the development phases, as described in Section Four of this Report. This is followed by a summary which expresses the costs in terms of generic categories, such as demolition, grading, platforms, track work, and so forth. Cost estimates have been developed according to the specializations of each of the firms on the team. Tables presenting cost data in a disaggregated format are presented as Appendix One). Schematic diagrams illustrating the track and platform configurations for the various phases are shown in Figures 5-1 through 5-4.

Real estate estimates have been prepared by members of the FIND Committee. As expressed, the costs include a factor for contingency, legal support, acquisition management, and, in some cases, an allowance for any remediation that may be required.

The program assumes that Postal Service activities have been moved, but does not include the cost of that relocation, per se. The real estate costs do include an allowance for the presumed market value of the real estate now owned by the Postal Service, and, indeed, by other public entities, including the City of Saint Paul.

5.1 Costs Summarized by Phase

5.1.1 Phase One:

- Modal elements: AMTRAK, intercity bus (Greyhound and Jefferson Lines), Metro Transit bus, Central Corridor LRT.
- Main features: Concourse and bridge acquired and rehabilitated; four station tracks constructed and connected through terminal throats at east and west ends to main freight railroad system, including required turnouts and signaling (Figure 5-1); light rail constructed from Fourth and Sibley to track level, including tail tracks and universal crossovers; track level paved for Metro Transit and intercity buses; necessary grading and construction of ramps, and associated intersection improvements, for transit vehicle access to track level; vertical circulation, platforms and shelters/umbrella sheds for all modes.
- Estimated cost: \$86.4 million in year 2003 dollars, including contingency, engineering and program management, but excluding real estate.

There are three potential variations of the Phase One program, with reductions in the initial cost possible if various combinations of modal elements were postponed to later phases:

- Postpone light rail: reduce initial Phase One cost by \$12.2 million
- Postpone light rail and Metro Transit bus: reduce initial Phase One cost by \$18.9 million
- Retain light rail and Metro Transit bus, postpone intercity bus and Amtrak: reduce initial Phase One cost by \$47.8 million.

5.1.2 Phase Two:

- Modal elements: Add Red Rock Commuter Rail service (Hastings-Saint Paul-Minneapolis) Union Depot requirements to Phase One elements.
- Main features: Provide two more station tracks (Figure 5-2), and associated platforms and umbrella sheds, vertical circulation, and track system connections and signaling improvements; construct railroad system grade separation between east throat of terminal and Hoffman Avenue/Dayton's Bluff (railroad underpass option costed for illustrative purposes).
- Estimated cost: \$72.2 million in year 2003 dollars, including contingency, engineering and program management, but excluding real estate.

5.1.3 Phase Three:

- Modal elements: Add Midwest High Speed Rail Service Union Depot requirements to combined elements of Phases One and Two. It is assumed that in this phase, passenger volume will require acquisition and rehabilitation of the Headhouse, for which cost estimates are included below.
- Main features: Add one track, platform, connections and signaling (Figure 5-3); acquire and renovate the Headhouse.
- Estimated cost: \$86.3 million in year 2003 dollars, including contingency, engineering and program management, but excluding real estate.

5.1.4 Phase Four:

- Modal elements: Add Rush Line Commuter Rail Service Union Depot requirements.
- Main features: Passenger and freight track (Figure 5-4) connections, signals.
- Estimated cost: \$2.6 million in year 2003 dollars, including contingency, engineering and program management, but excluding real estate.

5.2 Costs Summarized by Generic Cost Elements

To calculate the costs of the phases, a cost buildup spreadsheet was used. Generic elements of construction were calculated for each mode in each phase, quantities estimated and unit costs applied. In order to illustrate the costs of the generic elements separately, and make it possible to better understand the drivers of cost in the overall program, the following is a brief summary. This is only a summary. A detailed accounting of the incidence of cost by element in each phase is presented in Appendix 2.

Table 5.2

INVESTMENT CATEGORY	COST ESTIMATES FOR EACH PHASE				
	\$ Millions (2003 dollars)				
	PHASE ONE	PHASE TWO	PHASE THREE	PHASE FOUR	TOTAL
Demolition	\$ 3.0	\$ 0.2	\$ 3.2	\$ -	\$ 6.4
Grading	\$ 0.9	\$ 6.7	\$ 1.3	\$ 0.1	\$ 9.0
Drainage	\$ -	\$ 2.4	\$ -	\$ -	\$ 2.4
Structural	\$ 12.3	\$ 13.1	\$ 10.5	\$ -	\$ 35.9
Building	\$ 26.0	\$ 1.3	\$ 47.6	\$ -	\$ 74.9
Platforms	\$ 20.1	\$ 15.1	\$ 9.2	\$ -	\$ 44.4
Track Work	\$ 10.2	\$ 12.1	\$ 3.3	\$ 1.2	\$ 26.7
Signals and Communications	\$ 6.5	\$ 17.6	\$ 4.3	\$ 1.3	\$ 29.7
Traction Power	\$ 2.6	\$ -	\$ -	\$ -	\$ 2.6
Utilities	\$ 1.4	\$ 2.4	\$ 0.7	\$ -	\$ 4.6
Vehicle Circulation	\$ 1.5	\$ -	\$ -	\$ -	\$ 1.5
Urban Highway Circulation	\$ 0.7	\$ 0.4	\$ 0.7	\$ -	\$ 1.9
Parking	\$ -	\$ -	\$ 5.4	\$ -	\$ 5.4
Environmental	\$ -	\$ 0.7	\$ -	\$ -	\$ 0.7
Other	\$ 1.3	\$ -	\$ -	\$ -	\$ 1.3
Total	\$ 86.4	\$ 72.2	\$ 86.3	\$ 2.6	\$ 247.5

Columns and Rows may not total because of rounding
Contingencies, Engineering, and Project Management Included

5.3 Freight Rail Capacity Issues

The connection of Union Depot trackage to the rail freight network will have to be done in a manner that differs from the original track layout. The rail junction to the east of Union Depot is one of the busiest in the nation, and in addition, rail freight traffic, especially the intermodal component, is now growing at significant rate.

The exact nature of the improvements required to connect the Depot back to the freight network are not known with certainty. Typically, the freight carriers run computer simulation models to determine the most efficient way to improve a given network under the demands of traffic growth.

The assumption made in this analysis is that some sort of grade separation of the main railroad lines will be required to get the passenger tracks from the southeast to the east end of the Depot. The point in time when passenger rail traffic growth will require this is not certain, but we have timed this improvement to coincide with the start of Red Rock service.

Knowing the exact point in time when such an improvement is required is not as important as knowing that it will come, given passenger traffic growth. What is important is that future planning for particular services use simulation tools to make a reasonable estimate of that timing. Whether the passenger tracks must go under, over, or through the freight corridor will impact costs. The list of challenges facing potential designs include:

- Designing gradients and the necessary transition profiles to gain separation from the freight tracks in a limited area
- Avoiding the Bruce Vento Nature Sanctuary east of the freight wye if at all possible
- Staying out of the flight path of the St. Paul Airport
- Avoiding the rail freight congestion at Hoffman Avenue
- Drainage issues in the area of the freight wye
- Getting an alignment that provides for reasonable passenger operating speeds
- Constructability issues with the freight carriers
- Providing a design compatible with the historic Dayton's Bluff area
- Maintaining sufficient track lengths in the terminal platforms
- Providing a track switching layout that provides for adequate operational flexibility
- Ensuring any changes in the freight tracks respect the design standards of the owners

Illustrative of potential design approaches are track layouts in Figure 5-5 for Phase One and Figure 5-6 for Phase Four.

The passenger track design issues at the east end of St. Paul Union Depot could be greatly reduced if a way could be found to relocate the west leg of the freight wye. This is the track used by Union Pacific trains coming across the Robert Street moveable

railroad bridge to gain access to the Altoona Subdivision, an important rail route to Stillwater and Hudson, Wisconsin. While an easy solution to this problem is not apparent, discussions with Union Pacific to explore this concept should proceed as one of the next steps in project development.

5.4 Operating Costs

Once the terminal is in operation, continuing operating costs will need to be met. Given the many unknowns concerned, it is not the intent of this report to calculate those costs. However, it is possible to note that they can be considered to fall into two general categories – the "owners" (or "landlord's") costs, and the operating costs directly borne by the tenants as part of their normal routine of doing business.

The owner's costs would arise from general or shared cost drivers such as routine maintenance, utilities, heating and air conditioning, and so forth, liability insurance and general terminal management. For example, management would represent the terminal as an overall facility to the city and state, and have legal requirements, accounting functions, permitting interaction with the community, and other like functions to perform.

In the early phases during which it is foreseen that ownership of the might remain in private hands, the terminal management would negotiate agreements with the owner regarding such things as access, maintenance, and potential joint use of various parts of both facilities.

The tenants will have operating expenses too. For example, AMTRAK will have ticket agents, baggage handlers, responsibilities for maintaining its own spaces and offices, and so forth. Many of these, of course, are already being met at Midway Station, but new elements, such as vertical circulation, will be introduced.

While recognizing that these categories of operating expense exist, a more precise quantification will have to await a more complete definition of the terminal and its design, and the inevitable process of negotiation in which many categories of cost – as well as of benefit – will be identified, and their values agreed upon.

6 Financial Plan

Funding multi-modal transportation facilities in the United States has been particularly challenging in recent years as the country's transportation systems grow and mature. New services to meet changing travel patterns have shifted the location of transportation hubs requiring new facilities to be built, while some older transportation centers are seeing new life when new services are directed to them. For the most part, new and renovated multi-modal transit facilities have not enjoyed the level of federal funding afforded major investments in rail transit ("new starts") or highway programs. Funding plans for today's multi-modal facilities are complicated, relying on many funding sources, private sector involvement, and loan programs. The Saint Paul Union Depot project is likely to be funded in much the same way.

At this early stage of the Saint Paul Union Depot development, a broad based funding strategy and financial plan is needed. The full four-phase construction program for Union Depot could be expected to take 20-25 years, and would be dependent on the development of light rail, commuter rail and high speed rail in the region. The initial funding strategy will need to be flexible, allowing for changes to funding sources and amounts over time. As the project is further refined through additional planning, the environmental clearance process, and preliminary engineering, the financial plan will become focused on specific funding sources and their availability over time.

The purpose of this section of the Analysis is to provide a menu of funding options upon which a funding strategy for the Saint Paul Union Depot can be built. A description of capital funding sources is provided and a sample of the sources used to fund multi-modal facilities elsewhere in the country is described. The availability of funding from these sources is outlined in broad terms, suggesting which sources could be most successfully pursued in the next 2 to 4 years, and those sources that will require a longer term strategy.

6.1 Capital Funding Sources

The capital costs for the Saint Paul Union Depot project total \$271.8 million (including assumed real estate value) in 2003 dollars for all four phases of the project. Various sources of capital funds are available at the federal, state, and local levels. However, not all of the sources may be used for all of the phases of the project. The following sections describe the various funding sources and the elements of the project that may be eligible for those funds.

6.1.1 Federal Sources

Primary sources of federal capital funds have been established through Surface Transportation legislation. The current legislation, the Transportation Equity Act for the

21st Century (TEA-21) was set to expire on September 30, 2003. Congress has extended TEA-21 for five months to February 29, 2004, in anticipation of passing reauthorizing legislation in early 2004. The new bill has been named the Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003 (SAFETEA), a six-year reauthorization (from FY 2004 to FY 2009). While many of the elements of TEA-21 are anticipated to continue under SAFETEA, the final details of the legislation are not yet known. Accordingly, the following descriptions of capital funding sources are based on the US Department of Transportation's analysis of the SAFETEA authorizations and the current TEA-21 programs, and are subject to change.

6.1.2 Transportation Appropriations Earmark

Each year, Congress prepares and passes a Transportation and Treasury Appropriations bill, which includes earmarks for specific transportation projects throughout the country. The House version of the FY 2004 bill includes \$750,000 for the Saint Paul Union Depot project. As of the writing of this report, the bill has not been finalized. It is anticipated that the Union Depot project will receive some funding through an earmark in the final legislation.

6.1.3 New Rail Starts Funding

Section 5309 New Rail Starts funding is a discretionary funding program that requires projects to be evaluated using adopted criteria. Under TEA-21, the New Starts evaluation process requires that the Federal Transit Administration (FTA) establish overall project ratings of "highly recommended," "recommended," or "not recommended." Additionally, for evaluating local financial commitment, the consideration of local funding beyond the required non-federal share has been incorporated into statute. Projects requiring less than \$25 million in Section 5309 New Starts funding are exempt from rating.

There is substantial nationwide competition for New Rail Starts funding, resulting in increasingly larger local commitments of funds and smaller federal participation in the projects. The federal New Rail Starts share of funding for the projects that FTA rated for FY 2001 averaged 58 percent. While many criteria are considered in the evaluation process, SAFETEA is anticipated to set a maximum New Starts share of 50 percent Section 5309 funds to help secure a "recommended" or "highly recommended" rating for the project. (Other Federal funding programs could have different, lower match requirements, possibly resulting in a higher overall Federal share than 50%). After FTA has found the project to be worthy of a federal funding commitment, that commitment is documented in a Full Funding Grant Agreement, which outlines the federal participation in the project.

The process for qualifying for and obtaining New Rail Starts funding can take several years and requires compliance with federal project development requirements such as

preparation of environmental documents. As with all discretionary funding, significant outreach efforts are needed to inform decision-makers of the project, explain its merits, and to justify the funding requested.

Phase One of the Union Depot project would not be eligible for New Starts funding. However, the commuter rail lines included in Phases Two and Four of the project would be eligible for New Starts funding. To the extent that the costs for these commuter rail projects include the track, signal, station platforms and connections required for use of the Union Depot station, those costs could be paid for with New Starts funding for the projects.

6.1.4 Urbanized Area Formula Funds (Section 5307)

Urbanized Area Formula funds, also known as Section 5307 funds, can be used for capital needs or preventative maintenance, pursuant to TEA-21. Federal regulations now allow preventative maintenance costs, which are often included in operating costs, to be funded with Section 5307 monies. In general, all available Section 5307 funds are allocated to existing services for capital maintenance needs and are unlikely to be available in the near term for the Union Depot project.

6.1.5 Fixed Guideway Modernization Formula Funds (Section 5309)

Under the SAFETEA legislation, the Fixed Guideway Modernization program is anticipated to be moved into the Urbanized Area Formula Grant program (Section 5307). The apportionment of Fixed Guideway Modernization funds is based on route miles and revenue vehicle miles. These funds are generally allocated to existing services for capital maintenance needs rather than new construction.

6.1.6 Congestion Mitigation and Air Quality Improvement (CMAQ) and Surface Transportation Program (STP) Funds

These funds are provided to the State on a formula basis and are eligible for use on capital projects. According to the US DOT's estimates, Minnesota's average annual apportionment for 2004 to 2009 under SAFETEA for CMAQ will be \$15.2 million and for STP will be \$106.0 million. The availability of these funds depends on whether un-programmed funds are available, or if any funds could be reprogrammed for the Saint Paul Union Depot project.

6.1.7 Amtrak Capital Funds

Capital grants for Amtrak are allocated within the annual Transportation Appropriations bill. Amtrak's FY04 capital grant request was \$1 billion to fund the Corporation's

primary focus of bringing the system into “a state-of-good repair following a prolonged period of under-investment.”¹ While the capital grant request assumes no significant service changes, additional funds were requested for third-party commitments “to allow Amtrak to honor existing agreements with states for modest improvements intended primarily to improve the reliability of existing services.”² At the time of this writing, the legislation has not been finalized. However, it is likely that the final appropriation will be significantly less than Amtrak’s request. Due to limited funding, focus on fulfilling deferred maintenance and existing agreements, and annual exposure to political modifications, Amtrak capital funds are not likely to provide the Saint Paul Union Depot project with significant financial support.

6.1.8 Transportation Enhancements (TE) Activities

Transportation Enhancement projects, according to DOT, are “transportation-related activities that strengthen the cultural, aesthetic, and environmental aspects of the Nation’s transportation system.”³ It is anticipated that the ten percent set-aside of STP funds for TE activities included in TEA-21 will be continued under SAFETEA. Elements of the Saint Paul Union Depot project including the rehabilitation and operation of the Depot itself are likely to qualify as eligible TE activities.

6.1.9 Non-Federal Matching Funds

Although the matching rate for most federal funds is 80 percent federal and 20 percent local, higher local (non-federal) shares tend to be considered more favorably when discretionary federal sources are pursued. For New Rail Starts funding, 40 to 50 percent non-federal share should be planned for a project to be competitive. The non-federal share is usually provided by state or local funds dedicated to transportation or legislatively approved for the project. Some potential sources are described below.

Changes in eligible non-federal match under TEA-21 (Section 1301 of the Act) allow certain locally acquired land to qualify as a part of the non-federal share of the project. Specifically, it allows the fair market value of land lawfully obtained by the State or local government(s) to be applied to the non-federal share of project costs. To the extent land is acquired for the project (including donations of land), it may be used to match federal sources of funding to the project.

¹ *Amtrak FY04 Grant and Legislative Request*, <http://www.amtrak.com/pdf/AmtrakGLRequest04.pdf>, p. 5. Accessed October 30, 2003.

² *Ibid.*

³ *Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2003 Key Information*, U.S. Department of Transportation, May 16, 2003, p. 62.

6.1.10 Other Federal Sources

As the project is further defined, elements of the project may be eligible for certain federal sources. Examples of these sources include:

- Bus and Bus Facility discretionary grants
- Job Access and Reverse Commute grants
- Transportation and Community and System Preservation pilot program
- Intelligent Transportation Systems Research and Development grants
- Community Oriented Policing (COPS) grants
- High-Speed Rail Corridor Grade Crossings and Hazard Mitigation grants
- High-Speed Rail Corridor Planning & Technology Development grants
- Light Density Rail Line pilot projects
- Research and Demonstration grants
- National Corridor Planning and Development Program and Coordinated Border Infrastructure Program grants
- Section 130 Highway-Rail Grade Crossing Formula Funds
- Innovations Deserving Exploratory Analysis (IDEA) grants

Further analysis of the eligibility of project elements for these and other sources can be conducted as new elements are defined and a detailed funding plan is prepared.

6.1.11 State and Local Sources

A complete review of potential state and local sources of funds available for the Saint Paul Union Depot project should be undertaken in the development of a comprehensive project funding plan. For new or expanded sources of funds, such an analysis should consider the revenue generation potential, the stability and reliability of the source, the legislative authority needed to create or expand the source of funds, likelihood of voter approval (if necessary), ease of administration, ability to leverage the funds, and flexibility to use the funds on various transportation projects and for operations and capital needs.

State and local fund sources successfully used by other public transportation agencies for capital projects include:

- Statewide sales taxes dedicated to transportation
- Countywide sales taxes dedicated to transportation
- Motor vehicle fuel taxes
- Motor vehicle registration fees
- Development impact fees
- Passenger Facility Charges (PFCs)

A benefit of some of these sources (if appropriately authorized) is that they can be pledged for short or long term debt financing. For example, the revenue stream can be used to accelerate capital funding for the project using revenue bonds or notes.

Private sector funding through various public/private joint development arrangements has also been used to develop or enhance sites around rail stations and to provide revenues (e.g., from air rights leases, long term ground leases, and access to telecommunications bandwidth on fiber optic lines) for capital projects. These types of private sector funding are discussed in further detail in Chapter Seven of this report.

Because rail projects often cross jurisdictional boundaries and serve many communities, local jurisdictions participate in funding the capital and operating costs of the project. Funding support is derived from local sales taxes, city general funds, or other transportation funding available to the local jurisdiction. Additionally, such local support has taken the form of station construction and maintenance. For example, the Southern California Regional Rail Authority (SCRRA, operator of the Los Angeles area Metrolink commuter rail service) requires cities to be responsible for stations within their jurisdiction.

In Minnesota, state bonds are the source of transportation funding for many projects. The Union Depot project is likely to be a competitive project for these funds.

6.1.12 Livable Communities Grant Program

Created by the Minnesota legislature in 1995, the Livable Communities Program awards grants to help “create development or redevelopment that demonstrates efficient and cost-effective use of land and infrastructure, a range of housing types and costs, commercial and community uses, walkable neighborhoods, and easy access to transit and open

space.”⁴ As the City of Saint Paul is a participant in the program, the Saint Paul Union Depot project could apply for a Livable Communities grant.

6.1.13 City of Saint Paul

The City of Saint Paul may contribute to the Union Depot project in a variety of ways. Direct contributions of discretionary funding from the Housing and Redevelopment Authority capital improvement program and contributions of land in the area are two of the possible means of City participation in the project. Tax increment financing (discussed below) is another local source of funding the City could support.

6.1.14 Ramsey County Regional Railroad Authority

The legislation establishing Ramsey County Regional Railroad Authority gives the Authority broad powers with regard to funding. The Authority may establish charges and rentals for the use, sale, and availability of its property, it may accept grants and loans, and it has the power to impose a property tax with voter approval. The Authority may issue bonds and it may acquire property for facilitation of an economic development project that also improves rail service.

These powers are significant in the funding of Union Depot, as they provide a wide array of possibilities for a long term funding strategy. For example, the ability to tax and to issue bonds are important tools that might be used in the multi-year funding plan needed for the project.

6.2 Innovative Financing

6.2.1 Loans and Loan Guarantees

TEA-21 encourages the use of innovative funding techniques, and has assisted agencies in financing capital improvements through the Railroad Rehabilitation and Improvement Financing (RRIF) program and the Transportation Infrastructure Finance and Innovation Act (TIFIA). The RRIF program is intended to make funding available through loans and loan guarantees for railroad capital improvements. TIFIA provides federal credit assistance to major transportation investments of critical national importance. It is designed to fill market gaps and leverage substantial private co-investment by providing supplemental and subordinate capital. Both programs have established qualification criteria including creditworthiness of the agency/project. In addition to the federal loan programs, Minnesota’s State Infrastructure Bank, the Transportation Revolving Loan

⁴ Metropolitan Council, “Livable Communities Grant Program,” <http://www.metrocouncil.org/services/livcomm.htm>, accessed October 30, 2003.

Fund, leverages funds through the issuance of revenue bonds. Borrowers may pledge any type of revenue for repayment.⁵ These programs might be used as a part of an overall funding plan for the Union Depot project once project cash flows are developed and loans and loan guarantees are determined to benefit the project.

6.2.2 Sale-Leaseback Agreements

Because they do not pay taxes, public authorities are not able to take advantage of depreciation allowances under federal tax laws. However, depreciation deductions are a substantial benefit to private firms with tax liabilities. Under a sale-leaseback agreement, a public authority purchases an asset, sells it to a private firm, and leases it back over time. In exchange for the depreciation benefit, the private firm makes an up-front payment to the public authority.

A sale-leaseback agreement might be considered when new rail and bus vehicles are purchased for the Union Depot project. Sale-leaseback agreements may also be applicable to the track and station components of the project. Recent agreements such as this have yielded a net benefit of three to ten percent of the asset value. This up-front payment is generally unrestricted and can be used at the discretion of the agency for capital or operating purposes. FTA has endorsed this innovative technique for federally procured assets.

6.2.3 Station-Area Developments

Improved transportation access adds value to real estate. The areas around the Union Depot and commuter rail stations may become attractive development sites for housing, offices, and businesses that serve commuters. Increasing density around transportation centers not only fulfills the environmental and social goals of transit-oriented development, but also provides an opportunity for public-private partnerships. In cases where the commuter rail operator or local government owns the land around the station, opportunities may exist to derive income from developers in the form of lease payments or land sales. In certain locations, private developers may even be willing to fund the cost of the station as part of a larger development. Further description of joint development opportunities in the Saint Paul Union Depot area is provided in Chapter 7 of this report.

⁵ Brad Larsen, Minnesota's Transportation Revolving Loan Fund, National Cooperative Highway Research Program, November 8, 2001, http://www.innovativefinance.org/news_innovations/11082001_minnesota_s_transportation.asp, accessed October 31, 2003.

6.2.4 Tax Increment Financing

Communities could also fund infrastructure improvements within development areas around stations through tax increment financing. In tax increment financing, counties, municipalities, or other units of government create districts in which revenues from future increases in property taxes (resulting from increased assessed property values created by new development and/or better transportation access) are used to finance improvements in the district. The Saint Paul Union Depot is located within the Lowertown Redevelopment Area. Tax increment funds are eligible to be allocated to the Union Depot project.

6.2.5 Historic Preservation grants

Elements of the Union Depot project may qualify for historic preservation grants from state, local, and private sources. The annual budget for the State of Minnesota includes County and Local Historic Preservation Grants, administered by the Minnesota Historical Society. Recipients of these funds are required to fully match the state funds, and grant-in-aid funds are available for publicly-owned historic resources. Some private foundations provide grants for historic preservation as well. Such sources may include the National Trust for Historic Preservation and the Preservation Alliance of Minnesota.

6.3 Peer Group Analysis of Funding

Peer group analysis provides a means of identifying successes and challenges faced by entities undertaking the same or similar ventures elsewhere. This peer group analysis focuses on funding the capital costs of rail station rehabilitation projects. It provides an overview of the funding sources, plans and strategies used by various projects throughout the United States.

As each rehabilitation project is unique, both large- and small-scale projects are included. The experiences of these systems are useful in determining what funding approach might work for the Saint Paul Union Depot project. These projects include:

- Farley Penn Station, New York, NY
- Regional Transportation Center, Wilmington, DE
- South Station, Boston, MA

In contrast to new stations and rail line projects, the survey of rail station rehabilitation projects shows that projects like the Saint Paul Union Depot make use of a wide variety of funding sources, including private-sector funds.

Federal funding sources for these projects include:

- Federal Railroad Administration Grants
- Federal Transit Administration Planning Funds
- Federal Earmarks in ISTEA and TEA-21
- Transportation Enhancement (Historical) funds
- Amtrak Capital grants
- TIFIA loans and lines of credit

State Funds

- Transportation Capital grants
- State Infrastructure Bank loans
- State bond proceeds

Local Funds

- Transportation Matching Fund grants
- Local Transit Agency funds
- Land donations

Private Funds:

- Historic Preservation Grants
- Private Foundation Grants
- Local Fundraising proceeds
- Developer fees
- Tax credits
- Mortgage loans
- Developer equity

Typically, rail projects such as new stations, rail, and rolling stock are funded with a mix of federal, state, and local sources. Although TEA-21 allows for up to an 80 percent federal share of capital funds needed for development of new-start commuter rail systems, most recent systems have actually used considerably less. This reflects in part the high level of competition among rail systems around the country for scarce federal funds and the priority given to projects with local funding shares that exceed federal minimums. In addition, qualifying for federal funding also imposes additional development costs in the form of more time-consuming procedural requirements, including environmental documentation.

Increasingly, construction loans are employed to finance transportation projects, including station rehabilitation projects. In many cases, federal and state loans provide low-interest rates and junior lien positions for debt service payments. The eligibility criteria for transportation loan programs differ by jurisdiction. For example, the Transportation Infrastructure Finance and Innovation Act program requires that total eligible project costs exceed \$50 million (lowered from the \$100 million minimum of FY2003), and that the loan principal not exceed one-third of the eligible project costs. Regardless of each loan program's criteria, loans must be sized according to the anticipated revenues streams available for repayment. A wide variety of revenue streams have been pledged for loan repayment, (including tobacco settlements for one TIFIA loan) but lease payments from transportation tenants, joint development commercial rents, and redevelopment area tax increments are typical. The peer group survey found the following revenue streams pledged to debt service:

- Lease payments from transportation tenants
- Amtrak revenues
- Rents from planned station retail facilities
- Redevelopment area tax increment

In contrast to rail new starts, historic station rehabilitation projects have included private funds in their financial plans. In some cases, the stations have been centerpieces of local redevelopment plans, with a portion of the resulting tax increment used to finance construction period loans. In other cases, the rehabilitation of the Headhouse has been financed by private developers, who then share ownership of the building. Local and national private foundations have assisted with the historic preservation activities associated with some station projects, and local community fundraising activities have provided for amenities outside the scope of government funding.

The percentages of local, state, federal, and “private” funds used for the four “peer group” projects are summarized below.

Table 6.3

Multi-Modal Station Project Financing

Project Name, Year	Project Capital Cost	Federal Share	State Share	Local Share	Private Share
Boston South Station, 1989	\$125 million	32%	48%		20%
Farley Penn Station, New York, 1999	\$795 million	49%	24%	27%	0.5%
Regional Transportation Center, Wilmington, DE, 2001	\$19.6 million	31%	48%	17%	4%
Transbay Terminal Project, San Francisco, CA, 2003	\$2,082.9 million	18%	23%	59%	

Notes:

- Federal and State shares include loans.
- Local Shares include redevelopment agency support.
- Transbay Terminal Project State Share includes land sales.

Sources:

- Nancy Whelan Consulting
- U.S. Department of Transportation: Transportation Infrastructure Finance and Innovation Act Report to Congress, June 2002
- Ronald C. Sheck and Will James Shephard, *Great American Station Foundation: Guidebook on Train Station Revitalization*, 1998.
- Transit Cooperative Research Program, *Report 22: The Role of Transit in Creating Livable Metropolitan Communities*, 1997.

6.3.1 Case Study: Transbay Terminal Project, San Francisco, CA

As competition for funds becomes stronger, the use of new and innovative funding sources is likely to increase. The following case study of the Transbay Terminal Project in San Francisco, California shows that a multi-billion dollar project can be financed through the exclusive use of new revenue sources. While the Transbay Terminal project is orders of magnitude larger than the Saint Paul Union Depot project, its financing strategy illustrates recent trends in capital project financing.

The Transbay Terminal project consists of three primary elements:

- A new, multi-modal Transbay Terminal on the site of the present Transbay Terminal in downtown San Francisco, California;
- An extension of Caltrain commuter rail service to a new underground terminus underneath the proposed new Transbay Terminal; and
- A Redevelopment Area comprised of approximately 40 acres surrounding the site of the new Terminal.

Other subordinate components of the project include a temporary bus terminal facility to be used during construction of the new Transbay Terminal; a new, permanent off-site bus storage/layover facility; reconstructed bus ramps leading from the Bay Bridge to the new

Transbay Terminal; and a redesigned Caltrain storage yard. The total project cost is estimated at nearly \$3 billion in year of expenditure dollars, including debt service.

Some form of the Transbay Terminal project has been discussed publicly since the 1960's. In the last five years, however, the project has received renewed attention from the public and transportation funding agencies. San Francisco voters passed a measure declaring their support for an extension of the commuter rail line to the downtown terminal site. The project has been included in the regional transportation plan. The state legislature included the Transbay Terminal project in its list of projects to be funded with an additional dollar on the region's toll bridges. San Francisco's recently passed an extension of the county transportation sales tax which includes funds for the project. The Redevelopment Agency has published a Design for Development for the Transbay Redevelopment Area after extensive public outreach and professional analysis and design.

In order to assuage the concerns of the region's under-funded transit agencies, the Transbay Terminal's sponsors pledged that their project would make use of only new revenue sources. Benefiting from the traveling public's desire for reduced traffic congestion and better connections between the multitudes of transit service providers in the region, the funding plan for the Transbay Terminal makes extensive use of new and innovative funding sources.

Federal Funds

- Section 1601 Grant
- TIFIA loan

State Funds

- High Speed Rail Bond proceeds
- Land Transfer

Local Funds

- County transportation sales tax reauthorization
- Bridge toll increase
- Land Sales

Debt Service Revenue Streams

- Passenger Facility Charges

- Redevelopment Area Tax Increment
- Terminal Lease and Advertising Payments

6.4 Funding Opportunities for the Saint Paul Union Depot Project

Initiating a funding plan for a new capital project is challenging in an era of scarce resources. However, there are several factors that will help facilitate funding for the Saint Paul Union Depot:

- The project has been supported by stakeholders in the region. The LOCATE task force's planning efforts have resulted in an inclusive process that will help establish Union Depot as a regional transportation priority.
- Transportation projects in the Minneapolis – Saint Paul region have enjoyed federal support in the form of New Starts funding for light rail transit projects and an earmark for the Union Depot project. These successes can be built upon to expand federal funding for the project.
- There is significant public interest in the redevelopment of the Union Depot area, and key public agencies recognize the importance of a renovated Union Depot to renewing and revitalizing the area. Economic development is important to the project.
- Transportation services are planned to serve the depot, in the near term and the long term. Union Depot is viewed as the transportation hub it should be.
- Ramsey County Regional Railroad Authority has broad powers to develop and implement a multi-year funding plan based on a variety of funding sources.

While a fully funded project won't materialize from these factors alone, they provide a starting point from which the funding opportunities can be assessed and the range of funding options can be defined.

Based on the cost elements of the four phases contemplated for the project and the eligible sources described in the first section of this chapter, the most likely potential sources of funds have been identified and summarized in the following table.

Table 6.4

Phase	Element	Cost (millions, 2003 \$)	Potential Sources
PHASE ONE: Empire Builder, Intercity Buses, LRT, and Metro Transit Buses	Concourse and Bridge Terminal Trackage Track Connections Platforms and Vertical Circulation Intercity Bus Lines Interim Rehab Metro Transit Elements Real Estate	\$103.3	Section 5307/5309 formula funds Federal Transportation Enhancements Historic Preservation grants Federal Appropriations Earmark CMAQ and STP funds Livable Communities grants LRT project funding (New Starts) State Bond revenue City contribution of land Tax increment Joint development
PHASE TWO: Red Rock Commuter Rail	Duck Under, Alignment, and Connections Tracks, Platforms, Connections Real Estate	\$ 79.1	Commuter Rail project funding (New Starts) Land contributions Tax increment Joint development
PHASE THREE: High Speed Rail	Building Tracks, Platforms, Connections Real Estate	\$ 86.7	High Speed Rail project funding (state and federal grants) Federal Transportation Enhancements Historic Preservation grants Land contributions Tax increment Joint development Passenger facility charges
PHASE FOUR: Rush Line Commuter Rail	Tracks, Signals, Connections Real Estate	\$2.7	Commuter Rail project funding (New Starts) Land contributions Tax increment Joint development
	TOTAL	\$271.8	

In addition to the sources identified in the table above, the TIFIA or RRIF loan programs might be used to meet the cash flow requirements of the capital projects. Repayment of the loan would need to be dedicated from tax increment funds, property taxes, sales taxes, or passenger facilities charges.

6.5 Financial Strategy Components

Selected funding sources from a menu of options will become a true funding plan for the Union Depot project only when they are viewed as a whole and combined to match the timing and elements of the phased program. The initial strategy for securing these funds should be guided by the following principles:

1. Recognize that this is a 25-year investment program. Don't eliminate potential funding sources at this point, even if they seem difficult to obtain. Over time, the

funding picture will change, and the project will be more successful if all sources are considered.

2. The funding plan is likely to be complex, requiring a number of funding sources. The Authority must be flexible and opportunistic, taking advantage of new sources and financing techniques as they become available.
3. Advance the project as far as possible through environmental approvals and preliminary design to help the project meet “readiness” criteria when funds become available. One of the highest priorities is to obtain funds to meet these very near term needs.
4. The Authority can fill leadership voids in developing new sources of funds. New sources of state and local funds may be required to complete the project funding plan. For example, other multi-modal transit terminals have been able to obtain a dedication of sales tax revenue, bond revenue, and toll revenues by participating in the development of these new sources from their inception. The Authority may lead new regional transportation funding efforts in order to ensure the funding of its priority project.
5. Establish the Union Depot project as a high priority within the Regional Blueprint 2030 Plan and all other related transportation plans. Funding agencies will consider that the project has been identified consistently as a need within the region. Stakeholder support is critical in the funding arena, particularly when discretionary funding is sought.

In the near term, a more detailed financial plan for the first phase of the project should be developed. The detailed plan should identify the timing and amount of funding is available from each of the likely sources, and match it to the estimated annual expenditures. A plan for addressing shortfalls should be developed, including financing techniques as appropriate. Private sector involvement in the form of joint development, ground leases, and air rights leases should be evaluated. Each of the parcels to be owned by the Authority should be evaluated for development of the asset. This assessment needs to begin in the near-term because joint development is a long-term investment, often taking years to yield funding to the project. Its success depends on a solid plan and aggressive management of the assets.

7 Transit Oriented Joint Development and Institutional Issues

Union Depot, when developed into a multi-modal station for St. Paul, offers the opportunity for transit based development for both the public and private sectors. This chapter considers Ramsey County Regional Railroad Authority's role in joint (public/private) transit oriented development. Key elements of the discussion include:

1. Identifying current ownership of the real estate and the multiple stakeholders interested in the proposed Union Depot Multi-Modal Station
2. Considering the challenges of joint development
3. Reviewing other successful joint transit oriented development
4. Identifying statutory limitations of the Authority for implementing joint development

7.1 Current Ownership of the Real Estate

The Headhouse is privately owned, having been recently acquired by Steve Frenz of JAS Apartments, Inc., a creative Minneapolis-based urban housing developer. A recent offering statement resulting in the purchase of the Headhouse indicated that it is partially leased at 36% with only 15.3% of upper floor office area leased. Public rights of way were granted with the addition of the skyway connection. A total of 271 parking spaces exist as part of the property. There is a total of 185,710 square feet of mixed/used real estate in private ownership, not including any potential air rights. The property is zoned residential, retail, office, parking and services.

The Concourse, and the track level between Sibley Street and Broadway, are owned by the U.S. Postal Service. Once the Regional Railroad Authority acquires the concourse portion from the federal government following the relocation of the U.S. Postal Service, it is proposed that the Concourse be developed for multi-modal transportation purposes. Potential air rights would exist on this property as well.

To the east, from Broadway to the railroad junction area, and beneath the Lafayette Bridge, the property required for the terminal and track area is composed primarily of two parcels. The elevated level, where the depot trackage once existed, is already in public hands, having been acquired by the St. Paul Housing and Redevelopment Authority. The street level parcels adjacent to Kellogg Boulevard are largely the property of Allright Realty Company. The easternmost part of the lower level is also privately held.

If the Headhouse remains in private hands, at least in the initial phases of development, certain rights-of-way and other contractual arrangements would need to be negotiated with the private owner to provide such transit needs as 24-hour access to the concourse through the existing lobby, considering all ADA requirements, security and maintenance for extended hours, insurance and possibly passenger facilities including restrooms, drinking fountains, etc.

7.2 Opportunity for Transit Oriented Development and Joint Development

At such time as the Ramsey County Regional Rail Authority acquires the Concourse, and perhaps the Headhouse, the Authority's ability to provide transit-oriented development will be critical. Transit oriented development (TOD) is a strategy to locate people near transit services by developing land use and economic development opportunities involving higher density mixed uses. TOD remains a complicated and challenging undertaking due primarily to development risks and financing challenges. The majority of the markets where transit-oriented development is occurring do not financially support all of the proposed uses. From the private sector's perspective, TOD provides an opportunity to leverage public sector investment, build quality mixed use development projects, and capture future value from real estate exposed to daily transit commuters and long-distance travelers. In turn, the public sector wants to realize certain smart growth objectives and since it has made the investment in the transit system, it wants to seek transit oriented development that will support increased ridership, reduce the net operating costs of the public transportation modes, and contribute to the investment in the transit hub and its overhead costs.

One approach to TOD is to create joint development opportunities. Joint development typically includes a public agency leasing land or air rights to a private developer. In general, several benefits to pursuing joint development have been recognized elsewhere including:

- Cost savings
- Increased ridership
- Revenue generation
- Redevelopment/modernization
- Increased use
- Creation of jobs
- Promotion of local community

Specifically, the multiple stakeholders interested in the development of the St. Paul Depot present a variety of development opportunities and benefits that should continue to be explored as the project continues. Key stakeholders include: Ramsey County and its Regional Railroad Authority, the City of St. Paul, PED and HRA, Lowertown Redevelopment Corporation, Riverfront Development Corporation, Capital City Partnership, St. Paul Chamber of Commerce, BOMA, Capital River Council, Design Center and Stewards of Mississippi River Development. Various stakeholders have development experience and some have funding options available. Continued stakeholder involvement is recommended.

7.3 Joint Development Examples

7.3.1 Burnsville, Minnesota

A successful local example of a public/private partnership development is Burnsville's "Heart of the City", a five project development across the street from the Burnsville Transit Station including:

1. The Grande Market Place with a 350-stall public parking ramp funded by \$3.5 million TEA-21 grant surrounded by a private two building \$30-million mixed/used development, including a culinary arts school, shopping and 113 units of housing.
2. Uptown landing with 111 private condominiums.
3. Dakota County Community Development Agency, 34-unit family housing rentals.
4. Villa de Couer with 80 more condominium units.
5. Nicollet Commons Park supported by a \$2.5 million Livable Communities Demonstration Grant from the Metropolitan Council.

At full development the Heart of the City is expected to generate \$3.4 million in property taxes annually compared to \$200,000 prior to redevelopment. In addition to property taxes for county, local government and school, other fiscal benefits resulting from TOD include sales tax on construction materials, jobs, corporate and individual income taxes, utility and business license fees.

7.3.2 South Station, Boston

After the was listed on the National Register of Historic Places in 1978, the Massachusetts Bay Transportation Authority (MBTA) purchased the South Station building and tracks but the Boston Redevelopment Authority (BRA) retained air rights.

The intent was for the MBTA to renovate the station and build a bus terminal over the tracks and the BRA would negotiate with developers for use of the air rights above the station and tracks. The first half of the bus station was constructed. Building foundations for air rights development were placed during track renovation in the 1980's. Initial estimated costs for renovations were \$93.9 million. Actual costs were closer to \$195 million including the renovation of floors three, four and five in the Headhouse and renovation of retail space by a private sector partner, Equity Office Properties, a large real estate trust company, for \$15.6 million.

MBTA negotiated an agreement with Equity Office Properties whereby MBTA owned the Headhouse and leased it to Equity Offices. Equity developed the station and sub-leased the space to businesses, concessions and office space in the building above. Equity is responsible for day to day operations of the facility and maintenance and deducts these costs of operations before splitting evenly the profits with the MBTA.

Although as of May, 2003, the air rights development, including planned parking and valuable downtown office space, was twenty years behind schedule, the permitting process to develop the air rights is nearing completion. Tufts Development Corporation sold the air rights to Hines Development Corporation because the vibrations from the train traffic made the site unsuitable for high-tech firms which is what Tufts has intended for the area. Hines is continuing its development efforts.

7.3.3 Union Station, Washington D.C.

This facility serves 50,000 daily Amtrak travelers, Maryland Area Railway commuter riders, Washington Metropolitan Area Transit Authority, Metro (subway) and bus riders, tourist bus passengers, taxicabs, workers and residents. In addition to transit, it has become a central square for neighborhood residents and others due to the addition of a shopping mall including over 100 specialty shops, food court and restaurants, car rental service, pharmacy, florist and ATMs.

In 1981, Congress enacted the Union Station Redevelopment Act of 1981, which called on Transportation Secretary Elizabeth Dole to develop an ambitious plan for the commercial development of the station with the goal of making it financially self-sufficient. A unique public/private partnership was formed to restore the building to its original state and create a viable mixed use transportation center. The public sector partner was U.S. Department of Transportation and private sector partners were Benjamin Thompson Associates, Jones Lang LaSalle, and William Jackson Ewing, Inc. A total of twelve state and federal agencies had varying levels of involvement in the project. The \$170 million redevelopment program took almost five years from inception to completion.

Jones Lang LaSalle arranged equity financing, the interim and permanent debt financing, coordinated construction management, directed office space leasing and presently is the on-going leasing and management agent for the entire project. Williams Jackson Ewing

performed the retail lease-up effort and remains involved in the specialty retail leasing activity.

Work included the addition of a 1,500-space garage and 80-bus transit structure. Inside, more than 120 stores, restaurants, cafes and a nine-screen cinema were constructed, providing more than 210,000 square feet of retail space. The office section houses Amtrak's 100,000 square foot headquarters. A 96% occupancy rate has been maintained.

In addition to main mall retailers, Union Station provides opportunities for start-up businesses: artists, craftspeople, small businesses and retail kiosks. Between 1,200 and 1,500 new jobs have been created within the Station.

7.3.4 Springfield Union Station, Massachusetts

Springfield's Union Station is an historic, landmark train station being restored and redeveloped. It will serve as a hub for Pioneer Valley Transit Authority, Amtrak and inter city buses while offering office and retail space.

The Springfield Redevelopment Authority voted unanimously on June 24, 2002 to enter into a Joint Development Agreement with the Pioneer Valley Transit Authority and Jones Lang LaSalle as private developer for the Union Station Intermodal Redevelopment Project. The Pioneer Valley Transit Authority was created in 1974 by the Massachusetts legislature as a funding source and to provide oversight and coordination of public transportation within the Pioneer Valley region which includes Springfield. The public and private parties have negotiated plans and procedures to ensure continued maintenance of the transit uses as well as to establish a framework for the investment of private sector dollars.

Jones Lang LaSalle plans to maximize the office, retail and restaurant space while enhancing use by commuters. Two major retail tenants are being sought at opposite ends of the concourse and baggage building to encourage visitors to traverse the entire station and use other amenities like restaurants. Prime office space will be available on the second floor and community education center on the mezzanine. Peter Pan Bus Lines, the inter city bus company, will occupy quarters at the station leasing from the private developers several bus bays, a waiting room, a ticket counter and an operations office. Union Station renovation is to be completed in 2004. Springfield is hoping the economic development in downtown Springfield will result in \$115 million investment.

7.3.5 San Diego Metropolitan Transit Development Board (MTDB): MTS/James R. Mills Building; American Plaza Development; the 47th Street Trolley Station Site

Joint development potential at stations was considered from the beginning by the Metropolitan Transit Development Board, MTDB. At the MTS/James R. Mills Building,

the goal was to have an administrative office building of approximately 40,000 square feet and at the same time construct additional office space for private occupancy along with ground floor retail to serve the office building and transit patrons. The building was constructed directly above a three-track light rail station, with frequent train operation and heavy transit ridership.

To fund the project, MTDB and the County formed the San Diego Regional Building Authority. California law allows such a joint powers agency to issue lease revenue bonds which are tax exempt. The Authority leased the building to the County, which sub-leased portions of the building.

Another successful MTDB project is the mixed-use American Plaza Development, which runs through a 34-story office building adjacent to the Santa Fe Depot which includes a light rail stop. The building has ground floor shops, which opens to the depot platform, and houses the Museum of Contemporary Arts. The MTDB contributed \$1.2 million for the light rail station and the private developer, Starboard Development Corporation financed the office building and nearly 4/5 of the \$5.2 million capital costs for the station. Starboard also dedicated a condominium parcel of track way and airspace to MTDB.

The 47th Street Trolley Station Site was made possible by the availability of excess land following development of the station by MTDB. The developer independently acquired the adjacent property for development of a 100 unit multi-family project. MTDB and the developer entered a long-term lease of the station property, to construct 44 units of house and a child care center. Under the terms of the lease, MTDB receives revenue from the 44 units but not the child care facility, which is mentioned in the lease but not subject to rate increases.

7.3.6 Allied Junction, New Jersey

Allied Junction involved the creation of a new multi-modal transfer station, the consolidation and reconfiguration of existing transit lines, and served as the base for a 5 million square foot mixed-use commercial development. The project includes a transfer station, a 600-room hotel and approximately 4 million square feet of office space. The project was the result of the cooperation of rail lines, private business, a public entity and New Jersey Transit. Key factors in the success of the project included:

- Entrepreneurship
- Joint development as policy
- Coordinated effort
- Location and market demand
- Land use control/zoning

When considering TOD and joint development opportunities, it will be important to learn from others' experiences. Early public policy direction should be provided on such matters as:

1. Will joint development be the policy
2. How should private/public partnerships be developed and for what aspects of the project
3. What administrative structure should be put in place to assure a coordinated effort of all parties
4. What creative approaches to cost savings for the capital financing of the project are acceptable
5. What creative approaches for daily operations and maintenance savings can be considered
6. What opportunities for sharing revenues are available to lead to greater overall project success?

7.4 Institutional Issues

In considering transit oriented development, the powers granted a regional railroad authority by statute provide the authority and limitations for all activities of the regional railroad authority. Minnesota Statute Chapter 398A provides for the purpose and powers of regional railroad authorities. The purpose of a regional rail authority found in Minnesota Statute Section 398A.02 is to *provide a means whereby one or more municipalities, with state and federal aids as may be available may provide for the preservation and improvement of local rail service for ...passenger traffic...*

In general, an authority may exercise all powers necessary or desirable to implement the powers specifically granted in statute. Minnesota Statute Section 398A.09 provides that the statutes are to be “liberally construed” and broadly interpreted in order to effectuate legislative intent and purpose. Specific to real estate, Minnesota Statutes Section 398A.04 (b) states that an authority *may acquire real and personal property within or outside its taxing jurisdiction, by purchase, gift, devise, condemnation, conditional sale, lease, lease purchase, or otherwise; or for purposes including the facilitation of an economic development project ...that also improve rail service;*

Although rail authorities can acquire property to improve rail service (including enhancing ridership), legal counsel has advised other rail authorities in Minnesota that a regional railroad authority's powers do **not** extend to providing economic development of the property or adjacent properties. One limited exceptions are where economic

development activities can be provided by a regional railroad authority by administering an environmental response fund set up in special legislation for Hennepin County pursuant to Minnesota Statute Section 383B.81. The fund can be used to acquire polluted or contaminated properties, remediate and improve the property for economic development, recreational, housing, transportation or rail traffic. The monies can be expended only if the City in which the site is located approves.

During the last legislature session, there was an unsuccessful effort to seek legislation that would allow regional railroad authorities to enter into joint powers agreements directly with HRAs or EDAs. Without additional statutory authority, this is not possible because they do not meet the commonality of powers test required for a joint powers board (Minnesota Statute Section 471.59 Subd. 10).

Due to these statutory limitations, what other local regional railroad authorities have done is enter into a joint powers agreement with the county. Counties uniquely in Minnesota may exercise powers of other units of government without commonality of powers. (Minnesota Statute Section 471.59 Subd. 8). County participation in a joint powers board can cure the commonality limitation. Legal advice should be sought in structuring the appropriate legal structure and agreements. In seeking this legal advice, not only special legislation similar to that obtained by Hennepin County may be considered but also the implications of existing city powers pursuant to Minnesota Statute Section 469.091 which allows a city to establish an economic development authority which can exercise the powers of a housing and redevelopment authority and Minnesota Section 469.175 Subd. 7 which provides for a hazardous waste sub district within a tax increment financing district.

Joint development opportunities can lead to additional revenue sources. Although regional railroad authorities having taxing and bonding powers, joint development opportunities could lead to additional financial support for transit, as well as innovative ways to obtain revenue from such things as development fees, signage and advertising.

The magnitude of a project when developing a multi-modal station as contemplated as the St. Paul Depot suggests that all ideas should be considered to assure a successful development. A combination of strategies may be preferred. Currently, the Regional Railroad Authority, County and City and their respective agencies maintaining a close working relationship is critical. Without additional legislation, the County could enter into a joint powers agreement with both the Regional Railroad Authority and the City so that economic development powers of the City could be shared. Additional legislation could be sought to facilitate development, with the County and Regional Railroad Authority joining other counties and regional railroad authorities in their efforts to gain more flexibility for achieving their development goals. The institutional powers will need to be re-visited particularly as policy direction is provided related to TOD and joint development.

8 Next Steps and Development Increments

The redevelopment of Saint Paul Union Depot into a multimodal terminal for the community and the region is a complex project which, as noted in the discussion of phasing, will take years to complete. Since the terminal by definition would be the home of many modes provided by many operators, the completion of the program to the degree reflected in this report also depends upon the successful completion of studies and successful implementation of transportation corridor services over which Ramsey County does not have control. In addition, some of these are in only the initial stages of planning and development.

Major urban planning and urban design issues also are inherent in the terminal project. Located in a compact Downtown, the Union Depot multimodal terminal will not be a freestanding entity, but will naturally present development opportunities and challenges to the surrounding community. The promise of joint development is one which will require both careful analysis and a visionary approach. This is an element in the overall terminal development work program which must be provided for.

Finally, the relocation of Postal Service activities from the Union Depot site involves technical, locational and operational studies, major policy initiatives, federal funding, and coordination with a vital service that will take time and effort at several levels of government.

However, looking ahead, assumptions can be made about the order in which the various modes might be introduced into Union Depot, and the kind of steps that would have to be taken at the County level to provide the necessary infrastructure. In addition, in the earliest years of implementation, some assumptions might be made about steps which could be taken to secure a federal contribution to the project. The following is a generalized look-ahead, presented in tabular form in two-year increments, showing one way in which regional public transportation services might be introduced, and how local steps related to these services might be taken. In the following table, the introduction of various commuter rail corridors at Union Depot is delayed slightly from the dates shown previously in the graph of the possible buildup of train volumes through 2030.

It will be important to keep in mind that the dates of events, and the sequence of events, as portrayed in the table, are only conceptual, and dependent upon the resolution of many issues and policy decisions by many stakeholders over an extended period of time.

Table 8

PERIOD	STUDIES/ANALYSES and DESIGN	CONSTRUCTION	OTHER ACTIONS
2002-2004	<ul style="list-style-type: none"> • Complete locational analysis (Done) • Complete conceptual analysis (Done) 		
2004-2006	<ul style="list-style-type: none"> • Begin Preliminary Engineering (PE)/Draft Environmental Impact statement (DEIS),the Federal environmental clearance process • Prepare schematic designs for facilities • Resolve any historic preservation issues • Incorporate redevelopment concerns and concepts into PE • Resolve railroad issues (see below) 		<ul style="list-style-type: none"> • SAFETEA Earmark for Phase One • Advance right-of-way acquisition • Resolve Post Office Relocation issue • Begin Post Office Relocation • Put institutional structures and staffing in place for implementation of multi-modal terminal
2006-2008	<ul style="list-style-type: none"> • Complete PE/DEIS • Begin/Complete Phase One Final Design • Begin detailed joint development studies 	<ul style="list-style-type: none"> • Issue Phase One Construction Bid Documents 	<ul style="list-style-type: none"> • Apply/Obtain Federal Grant for Phase One Final Design and Construction • Complete Post Office relocation
2008-2010	<ul style="list-style-type: none"> • Complete Joint Development Concept for Phase One 	<ul style="list-style-type: none"> • Construct Phase One 	
2010-2012	<ul style="list-style-type: none"> • Resolve principal remaining railroad issues (east end grade separation) 	<ul style="list-style-type: none"> • Construct first phase of joint development 	<ul style="list-style-type: none"> • Inaugurate Phase One services at Union Depot • New Federal earmark for Phases Two and Three • Apply/Obtain Federal Grant for Phase Two Final Design and Construction
2012-2014	<ul style="list-style-type: none"> • Begin/Complete Phase Two Final Design 	<ul style="list-style-type: none"> • Issue Phase Two Construction Bid Documents • Continued joint development construction 	<ul style="list-style-type: none"> • Negotiate acquisition of
2014-2016	<ul style="list-style-type: none"> • Begin/Complete Final Design work for rehabilitation 	<ul style="list-style-type: none"> • Construct Phase Two • Issue Bid Documents for rehabilitation • Continued joint development construction 	<ul style="list-style-type: none"> • Inaugurate Phase Two services at Union Depot • Apply/Obtain Federal Grant for Phase Three Final Design and Construction

PERIOD	STUDIES/ANALYSES and DESIGN	CONSTRUCTION	OTHER ACTIONS
2016-2018	<ul style="list-style-type: none"> • Begin/Complete Final Design work for Phase Three 	<ul style="list-style-type: none"> • rehabilitation • Issue Bid Documents for Phase Three • Begin Phase Three Construction • Continued joint development construction 	<ul style="list-style-type: none"> • New Federal earmark or Phase Four (and other?) • Apply/obtain Federal Grant for Phase Four Final Design and Construction
2018-2020	<ul style="list-style-type: none"> • Begin/Complete Final Design work for Phase Four 	<ul style="list-style-type: none"> • Complete Phase Three Construction • Issue Bid Documents for Phase Four Construction • Construct Phase Four • Continued joint development construction 	<ul style="list-style-type: none"> • Inaugurate Phase Three and Four services at Union Depot

In the listing of studies, design work and analyses in the table above, special note is made of “railroad issues” in the 2004-2006 and 2010-2012 periods. In fact, what is essential is a background practice of continuous coordination with the three operating freight railroad companies, in addition to AMTRAK and any commuter operator or operators that may be introduced in the region. Serious consideration should be given to establishment of a semi-permanent discussion forum of all operators, to maintain open lines of communication, keep the spotlight on issues of common concern and interest, and perhaps develop mutually accepted methodologies for study and resolution of operating issues.

Over and above this continuing dialogue, it is recognized that in the two time periods noted above there will be some key points at which very significant agreements will have to be reached with the freight railroads. Those two are highlighted as periods of what will probably be a particularly intense level of involvement with the railroads. The first, during 2004-2006, is the period in which, as part of the proposed preliminary engineering and environmental documentation, conceptual agreement to both longer range and shorter range track connections to the depot, and all of the associated trackage and infrastructure requirements, must be obtained, so that worthwhile design work leading to implementation of Phase One can proceed. In the second highlighted period, 2010-2012, the critical issues associated with final design of the east end grade separation must be resolved. This important piece of infrastructure will probably be required for Red Rock Corridor service to be effectively operated, but it should also be designed in such a way that it will be able to accommodate high speed trains at a later date. Thus, the railroads will be asked to participate in thinking not only about commuter rail in this corridor, but also about the longer-range matter of high speed service, and how its approach to Union Depot will be handled.

Since no firm commitments have yet been made to implement any of these projects, it is highly likely that the actual events and sequence of events will unfold differently than suggested above. However, this table does provide a useful template the Authority and others can employ to guide decision making for Union Station and other related projects, and use as a benchmark to understand the development process for the various projects, and how they can be coordinated.

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