

NICTI Alternatives Analysis

DRAFT

Second Level Screening Report

Prepared for:



***Northern Illinois
Commuter Transportation Initiative***

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1.0 Executive Summary

This Executive Summary provides the highlights of the second level screening analysis. Chapters 2-9 provide a more detailed review of each of the factors.

1.1 Alternatives

As a result of the first level screening analysis, four alternatives were recommended for further screening as part of a Second Level Screen. One of the alternatives was transitioned into the TSM alternative and is used as the baseline for comparison in the New Starts evaluation. The Second Level Screen further develops the analysis of the three build alternatives as well as the TSM alternative. The alternatives to be considered are:

TSM - The Transportation System Management or TSM alternative is defined as the "best that can be done without a fixed guideway" to improve transit service in the corridor. Since there is no public service in this corridor today, the TSM must introduce a significant level of service. The TSM is a bus rapid transit alternative which would operate on Interstate 90 (I-90). Under the TSM operating plan, the bus would be permitted to operate on the shoulder of the tollway when congestion is present. Due to current and projected congestion points, it is expected that between IL Route 53 and Randall Road, the bus would operate on the shoulders 100% of the time. West of Randall Road, it is expected that the bus would only operate on the shoulders 20% to 30% of the time.

BRT- The Bus Rapid Transit or BRT alternative provides a fixed guideway or busway between Elgin and Rockford parallel to Interstate 90/Northwest Tollway (I-90). Median lanes would be built for exclusive bus use between Randall and Meacham Roads. Priority treatments include traffic signal priority and queue jump lanes at intersections. Branch line service would be provided to service selected park and ride lots and station stops.

CR5 - The Commuter Rail 5 (CR5) alternative is an alternative that connects Elgin and Rockford utilizing the existing IC&E Railroad and IL Railway Line. Service would begin at the Elgin Big Timber Station on the Metra Milwaukee District West Line and continue west toward Rockford. Stations are proposed in the communities of Elgin, Hampshire, Genoa, Kirkland, near Davis Junction (at I-39/IL 72) and Rockford, including Rockford Airport.

CR6 - The Commuter Rail 6 (CR6) alternative connects Rockford to the existing Metra service at the Elgin/Big Timber Station. CR6 utilizes the Union Pacific Railroad – Belvidere Subdivision. Stations are proposed in the communities of Elgin, Huntley, Marengo, Belvidere and Rockford.

With both the CR5 and CR6 alternatives, a blend of two types of operations are proposed: shuttle train service and through-route service. Shuttle operation will provide a scheduled cross-platform transfer with the existing Metra service. Through-route service allows the new commuter rail line to continue past Elgin/Big Timber on the existing Metra tracks to points east of Elgin. The goal of this blended service is to allow for the most effective transfer and blend into the existing Metra service at Elgin/Big Timber Road so as not to negatively impact current or planned Metra operations while providing high quality service for the Rockford region market. More detail can be found in Chapter 2.

1.2 Detailed Screening Criteria

To determine which alternatives would best meet the purpose and need of the project, the Alternatives Analysis used a multiple-step evaluation process. Each step in the process focused on evaluation criteria and measures of effectiveness that match the FTA New Starts criteria. The "Reporting Instructions for the Section 5309 New Starts Criteria", May 2007, Federal Transit Administration Office of Planning and Environment, was followed in the preparation of the detailed screening criteria. The FTA considers the following criteria contained in the federal transportation funding bill, SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) in its evaluation of proposed New Starts projects:

- Mobility Improvements
- Cost Effectiveness
- Transit Supportive Land Use and Future Patterns
- Environmental Benefits

The table attached at the end of Chapter 1 presents the New Starts criteria, the evaluation category, the measures of effectiveness and the description on how the category was measured. Background research and data collection was completed for all four alternatives in each of these categories and is shown in the table. This detailed level of evaluation is what is required by the Alternative Analysis process. Four of the measures are considered to be particularly important in measures of an alternative's competitiveness for federal funding:

- Daily transit trips
- Capital costs
- Annual operations and maintenance (O & M) costs
- Cost Effectiveness Index (CEI)

Alternative	Daily Transit Trips	Capital Cost	O& M Cost	CEI
TSM	2,158	\$74,400,000	\$2,800,000	-----
BRT	3,757	\$263,000,000	\$5,300,000	\$59.20
CR5	1,585	\$229,700,000	\$9,700,000	\$105.41
CR6	5,221	\$247,100,000	\$10,200,000	\$66.97

More detail on the screening criteria can be found in Chapters 3 and 4.

1.3 Mobility Improvements

The following evaluation criteria was used to quantify the performance of each project alternative in support of the project objectives:

- Transit System Usage
- Accessibility
- Environmental Justice
- Transit Dependent Riders

Transit System Usage: A regional travel demand model was used to forecast ridership on each of the alternatives. Forecasting was performed using the Chicago Metropolitan Agency on Planning (CMAP) model with an expanded roadway network and zone system to incorporate the project study area. The application of the travel demand model linked land use, development and transportation infrastructure improvements with travel patterns and conditions. The model was developed based on collected data that reflected the unique traveling patterns and conditions of the particular urban area.

The regional travel demand model consisted of an enhanced four-step process: trip generation, trip distribution, mode choice and network assignment. Trip generation determines the number of trips by purpose that are generated in the region. Trip distribution estimates the linkages between the trip ends, i.e. which trips are traveling to which locations. Mode choice determines the mode of the trip. The available transit modes are bus rapid transit and commuter rail. Network assignment estimates the potential route of either the highway or the transit trip.

Results of the model indicate that projected daily ridership is greatest on CR6 . Results are as follows:

Alternative	Daily Trips
TSM	2,158
BRT	3,757
CR5	1,585
CR6	5,221

Accessibility: The one measure under this category is intermodal connections expressed as the number of bus and rail connections. Connections with existing and proposed extensions to bus services provided by Pace and the RMTD (Rockford Mass Transit District) and proposed shuttle bus service routes as well as connections to existing Metra commuter rail have been included in this analysis.

The TSM and BRT options provide the most connections to the local and feeder bus systems in Rockford, as well as within the communities of Elgin, Medinah, Schaumburg, and Bensenville - thirty four (34) potential connections. Both commuter rail options meet a total of twenty seven (27) existing Pace bus routes in Elgin, Medinah and Bensenville, as well as RMTD bus routes in Rockford

Environmental Justice: Environmental justice is the confluence of social and environmental movements which deal with the inequitable environmental burden born by groups such as the disadvantaged, ethnic, minority or other groups. "Environmental justice" occurs when there is a fair share of positive impacts received by minority and low income populations. "Environmental injustice" occurs when an undue portion of negative impacts of a project are borne by minority and low income populations.

A review of minority and low income populations living adjacent to each of the alternatives was conducted. The TSM and BRT alternatives serve the greatest number of low-income and minority residents in the travel corridor.

Transit Dependent Riders: Transit dependent riders are elderly and low income people who do not have access to personal automobiles. Census information from 2000 indicates that anywhere from 1.6% to 11.4% of the households from each of the communities in the study area did not have a vehicle available. Elgin, Belvidere, and Rockford were

communities with slightly higher percentages of households who had no access to a vehicle (7%, 9% and 11% respectively). The communities of Huntley and Davis Junction had the most households with vehicles available; under 2% of the residents in each of these communities did not have a vehicle available. Looking at the corridors for each alternative as a whole, the percentage of households without a vehicle was similar for each alternative.

More detail on the mobility evaluation can be found in Chapter 5.

1.4. Cost Effectiveness

Capital cost estimates for each alternative are based on concept plans and station area assumptions as described in Chapter 2. The capital cost methodology is described below and results are provided in Chapter 6. The capital cost spreadsheets are based on the FTA Standard Cost Categories (SCC) for Capital Projects. Capital costs were categorized into guideway and track elements; stations, stops, terminal and intermodal; support facilities; sitework and special conditions; systems; right of way, land, existing improvements; vehicles; and professional services. Regionally accepted unit costs were used to generate each alternative's cost estimate.

The TSM alternative has the least capital cost. The BRT alternative has the greatest. Refer to the table below.

Operating and maintenance (O&M) costs estimates for each alternative are based on operating plans and ridership forecasts. The O&M cost estimates for the TSM and BRT alternative are based on vehicle operations, infrastructure maintenance and the cost to operate feeder buses to meet the TSM and BRT systems. The O&M costs for the commuter rail options are operations, including all overhead and personnel, fuel, and maintenance-of-way, station maintenance, and operating costs associated with either feeder buses to the commuter rail stations or the costs to operate the bus service when commuter rail service is finished running for the day.

O&M costs are the least for the TSM option and greatest for the CR6 alternative.

The results for capital and operating costs are as follows:

Alternative	Capital Cost	O&M Costs
TSM	\$74,400,000	\$2,800,000
BRT	\$263,000,000	\$5,300,000
CR5	\$229,700,000	\$9,700,000
CR6	\$247,100,000	\$10,200,000

The FTA uses a measure of project benefit that is called a Cost Effectiveness Index (CEI). This measure is deemed to be comparable across all projects throughout the country. In the current FTA Guidance, the threshold for a positive project rating of costs is a CEI of \$23.99 or less. CEI estimates for the build alternatives were developed and are shown in the table below.

Estimated FTA CEI Measure for Alternatives	
Alternative	Estimated CEI
BRT	\$59.20
CR5	\$105.41
CR6	\$66.97
Current FTA funding threshold	
	\$23.99

More detail on Cost Effectiveness evaluation can be found in Chapter 6.

1.5 Governance, Funding and Operations

There are three components to the practical aspects of instituting a regional transportation system:

1. Governing the system and managing the service
2. Financing appropriate levels of contributions to capital investments and subsidizing operating costs
3. Operating the service, including contracting for operations

Governance: Several options were identified as approaches to defining a policy-making and managerial entity that would be responsible for overseeing and funding a new rail or bus rapid transit system in Northern Illinois. Generally, these are: a Mass Transit District, a Rail Authority organized under the auspices of the Greater Rockford Airport Authority, developing intergovernmental agreements, and joining the Regional Transportation Authority (RTA) of Northeastern Illinois. The main features for each of these approaches are summarized in the below table and described in detail following the table. With the exception of entering into intergovernmental agreements, each alternative is tied to existing Illinois legislation that provides for establishing and empowering a particular type of organization.

	New MTD	Expand RMTD	Expand GRAA	Intergovernmental Agreements	Join RTA
Ease of Establishment	+ No referendum	+ May annex	+ May create Rail Authority	+ No action needed	+ May annex - Referendum required to join a taxing body
Power and Flexibility	+ Municipal powers	+ Municipal powers	- Prohibited from acting as a rail carrier	- No special powers related to transit	+ Municipal powers
Proportional Representation	+	+	- Not guaranteed outside Winnebago	0 Equal status for each county	- Not assured; may require legislative action
Taxation: Public Approval Requirement	- Referendum	- Referendum	+ No referendum	- No provision for dedicated tax	+ No additional referendum
Funding: Mechanism and Assurance	+ Taxing power	+ Taxing power	- Taxing power, but only within GRAA municipal boundary	- No dedicated funding; subject to annual appropriations for debt service, and operating subsidy	+ Taxes within all member counties - May require local subsidy to guarantee 50% funding requirement
Cost Efficiencies in Governance / Administration	- New staff and other administrative expenses	+ RMTD is staffed - May require additional staff to manage rail	+ Efficiencies in shared administration - May require additional staff to manage rail	+ No new staff needed; assumes contract operations	+ No need to establish governing org, add staff, or negotiate service contracts; immediate access to all RTA resources and service providers

A. Create or Expand a Mass Transit District:

The Local Mass Transit District Act, first passed in 1959 and amended several times, is the vehicle for governing, managing and funding transit service that has been used widely throughout the State. One important advantage of a Mass Transit District (MTD) is its power to tax which, though subject to referendum, can generate sufficient local financial resources to fund transit services. There is considerable flexibility in defining the responsibilities of an MTD, which have all the powers of a municipal government. For example, they have been established as organizing entities to perform one or more of the following functions: converting private bus companies to public corporations, operating bus service, procuring publicly owned equipment to be used by privately held railroads, and making capital investments in railroads that are not in the public domain.

One option is to create a new mass transit district to oversee the new system. Participants in a new MTD would include the Northern Illinois counties that receive service. A second option would be to expand the existing Rockford Mass Transit District (RMTD).

B. Expand the Greater Rockford Airport Authority (GRAA) / Winnebago County Rail Authority Legislation

In 2007, the Illinois General Assembly amended the Airport Authorities Act to permit an airport authority in a county with a population of between 200,000 and 500,000 to adopt a resolution to establish, but not to abolish, a Rail Authority. The Greater Rockford Airport Authority, serving Winnebago County's population of about 289,000, is qualified by definition to undertake this functional expansion. The legislation refers both to passenger and freight rail service but appears to be geared more toward the development of freight rail and intermodal facilities due to numerous specific references to such facilities. This legislation specifically prohibits the Rail Authority from acting as a rail carrier. The amended act also addresses bus service, expressly authorizing a Rail Authority to "provide non-rail transportation services within the Counties, which may consist of shuttle bus service to or from an airport..." A narrow interpretation of this authority may preclude operation of a bus rapid transit service, or the operation of needed shuttle service to other stations.

There are some practical barriers to the GRAA, as currently desired, being able to be the governance entity for commuter rail service including only being able to tax within its corporate limits and representation on the board. Any other participating county that provides funding could have representation on the Rail Board, subject to the concurrence of the Winnebago County Chairman. With the alignments being studied, the neighboring counties would host a greater proportion of track or roadway alignment than Winnebago, and this may make policy-level participation difficult.

C. Develop Intergovernmental Agreements between Winnebago and Boone Counties, and Public or Private Entities for Service

The participating counties (Boone and Winnebago, for example) could develop and enter into intergovernmental agreements for service with a public operator. Examples of public operators are: RMTD or Pace for bus service, and Amtrak or Metra for rail service. The counties could also contract with a private operator for rail or bus service. This approach does not require any organizational entity other than the County Boards to be in place.

There are possible negatives in pursuing this approach. One is that there is no dedicated funding source. Each year, participating governments outside the RTA region would be required to budget funding from their resources for any capital improvements and all operating subsidy requirements. In addition, it would be necessary to renegotiate the agreements periodically. Finally, FTA might not see this arrangement as an adequate local commitment to the project and would probably require the participants to guarantee that the New Starts improvements would continue to operate over the reasonable life of the investment; in the event that service were to be discontinued prematurely, they would be required to repay a pro-rated portion of the federal grants.

D. Join the RTA Region

Finally, the participating counties could ask to be annexed to the Regional Transportation Authority's (RTA) territory. The RTA Act (§ 3.06) provides for annexing contiguous counties under conditions prescribed by RTA ordinance. The boards of the counties seeking to join RTA must also adopt an ordinance. After all the formal approvals and certifications are obtained, the county boards must submit a proposition to the voters for approval by majority vote in any regular election. Advantages of joining RTA include avoiding the complexities and expenses of: establishing a governing organization; retaining support staff; and negotiating service contracts. Other compensations are immediate access to the agency's administrative and planning capabilities, funding resources and service providers. RTA's service boards are experienced in implementing and operating new

service and are also experienced in developing New Starts projects. Disadvantages include farebox recovery requirements as well as the lack of guarantee of local projects being prioritized.

By law, RTA's system is required to produce revenue that is equivalent to 50% of the total operating cost. In considering the option of joining the RTA region, it seems reasonable to assume that new entrants would be required to guarantee revenue that is equivalent to 50% of operating cost through a combination of fares and local subsidies.

The 50% of operating costs that require subsidy are funded by the proceeds of sales taxes that RTA levies throughout its region. Until early 2008 when the Illinois General Assembly authorized an increase in the RTA levied sales tax for the collar counties to 0.5%, the tax rate was 0.25%. At the same time, each of the collar county boards was authorized to collect an additional 0.25% sales tax for suburban transportation and public safety projects, making the potential total effective new rate 0.75%. Since joining the RTA region is subject to voter approval, the new tax rate may be the greatest impediment to proceeding with this option. Another possible negative is that the residents of the study area may feel disconnected from an agency that is administered in Chicago. And finally, there is the question of representation on the RTA Board, which is proportional to population. There are now 16 seats on the RTA Board, or on average 1 for every 500,000 residents in a region of 8 million people. For new member counties to obtain representation on the Board may require either negotiation with the county boards that are currently in the RTA region, or alternatively, an amendment to the RTA Act that adds yet another seat. It may be difficult to gain support for the latter option in light of the prolonged effort that was recently required to amend the RTA Act.

Financing and Potential Funding Sources: There are two major elements of financing and funding: capital investments and operating subsidies. Although there are different categories of FTA capital funding with different definitions and guidelines applying to each, for the purposes of this discussion it is assumed that FTA provides at most 50% of needed capital funds and requires a local matching share of 50%. If Federal funding is not provided or not available, 100% of the capital costs will need to be funded by non-federal sources. Typically, the State of Illinois has provided the local match, but at the present time, the State's capital funding resources are virtually exhausted, which means that in order to obtain federal capital grants other local resources must be identified. With respect to major new capital investments such as this Northern Illinois initiative, an enhanced local match may improve the prospects for federal funding commitments in a field where the competition for limited funds is intense. Another issue to consider in funding the service is whether the Metra/RTA region will participate financially in the segment of service in their service area. Costs are broken down and identified as those that would be a NICTI responsibility and those that could potentially be Metra/RTA costs.

Operating the Service: Organizational methods for governing and managing service were reviewed. Among the additional administrative responsibilities associated with providing service are marketing, sales, providing for insurance, and negotiating leases and contracts. It is assumed that all of these functions are the responsibility of the managing entity, unless the NICTI counties were to opt for entering into intergovernmental agreements as a method of providing for service.

Regardless of the selected mode or alignment alternative, certain additional functions must be addressed in the context of providing passenger service. These include: maintenance and repair of equipment; maintenance of way (right-of-way) for any dedicated alignment, be it bus rapid transit or commuter rail; maintenance of stations;

and delivery of actual scheduled passenger service. There are several options that can be considered in providing for service.

- The organizing entity could provide service directly. The logic of this approach depends on which organizational and governing strategy is selected, as well as the choice of a Locally Preferred Alternative.
 - If the NICTI counties were to join the RTA region, service would be operated directly by Metra, Pace and/or RMTD. These organizations would also provide all administrative support services.
 - If the NICTI counties elected to expand RMTD, and BRT became the Locally Preferred Alternative, RMTD could operate the new service and provide administrative support.
 - Alternatively, if a new MTD which absorbed RMTD were to be created, the organization would have in-house capability to manage, administer and operate BRT and feeder bus services.
 - If one of the rail options became the preferred alternative, contracting with an established and experienced rail operator would be recommended.
 - If the NICTI counties were to organize under GRAA/Rail Authority Legislation, or simply to enter into intergovernmental agreements, contracting for service delivery with an established operator like RMTD, Pace, Metra or Amtrak would be logical.
- For rail service, contracting with Metra is an option. Metra is an experienced operator with a very good reputation, and it is Metra service that either of the rail options would connect to. If there was a decision to provide through service from Rockford to Chicago, eliminating the need to transfer, plans call for using Metra facilities. While Metra has a history of negotiating purchase of service agreements with the rail carriers whose facilities it does not own, the agency has never entered into contracts to operate services outside of its traditional region. Its only extra-territorial operations are those that are “grandfathered.”
- Contracting with Amtrak, another public rail operator, is a possibility. An initiative of Senator Durbin and Congressman Manzullo could result in service between Dubuque and Chicago, with stops in Galena and Rockford. Integrating Amtrak and the proposed commuter services could result in a higher level of service for north central Illinois without increasing costs that would be incurred by the NICTI counties. Amtrak is experienced in operating commuter services under contract, and previously operated such service between Chicago and Valparaiso, Indiana. Amtrak also has coach yards and maintenance facilities in Chicago.
- Finally, contracting with a private rail operator is an option. Several companies, such as Veolia, Bombardier, and Herzog, are experienced in providing contract services. Union Pacific (UP) also operates under a purchase of service contract to Metra, but previously has not pursued opportunities to provide passenger service outside of Northeastern Illinois.

More detail on Governance, Funding and Operations can be found in Chapter 7.

1.6 Transit Supportive Land Use

Transit supportive land uses can maximize access to and by transit. In particular, by encouraging a certain type of site and urban design characteristics, the number of single occupant vehicle trips can be reduced. Public policies in

the form of comprehensive plans, zoning laws, and other regulations can have an effect on the accessibility of transit by attracting a denser mix of residential and commercial developments within ¼ to ½ mile from the station areas.

The predominant land use in this study area west of the edge of the urbanized Chicago-area is agricultural. However, there are notable areas of concentrated population and employment density between Rockford and the Chicago metro-area, including Belvidere in Boone County; Marengo and Huntley in McHenry County; DeKalb and Sycamore in DeKalb County; Rochelle in Ogle County; and Machesney Park and Loves Park in Winnebago County. This area between Chicago and Rockford has demonstrated high growth rates and will continue these trends as population within the study area is projected to increase by 18.1 percent between 2000 and 2030, and employment within the study area is projected to double in this same time span (RATS 2035 Long Range Transportation Plan, U.S. Census Bureau, U.S. Bureau of Economic Analysis, and the Northeastern Illinois Planning Commission).

The greatest concentration of existing and planned population and employment growth between the Chicago-area and Rockford is along the northern edge of the I-90 tollway corridor, including the communities of Belvidere in Boone County and Marengo and Huntley in McHenry County. The area between Rockford and Belvidere along I-90 has been a targeted growth area in the Rockford MSA since the 1990s and includes the DaimlerChrysler Belvidere Assembly Plant, the I-90 Ag-Technology Park, and other employment centers.

Future land use plans in the I-90 corridor as a whole generally call for continued concentration of population and employment density in these existing urbanized areas coupled with preservation of prime farmland and in existing rural areas. Population projections illustrate that Kane, McHenry and Boone counties also will remain within the top ten Illinois counties for population growth in the next twenty years, expected to grow by 46% in Kane County, 46% in McHenry County, and 100% in Boone County between 2000 and 2025 (U.S. Census, Boone County and Winnebago County Transportation Planning Study). While population and employment growth is occurring in a few concentrated areas of the study area, this growth has been and will continue to be most densely concentrated in communities along the I-90 corridor in Winnebago, Boone, McHenry, and Kane Counties.

More detail on the Land Use evaluation can be found in Chapter 8.

1.7 Environmental Benefits

Background research and field reconnaissance surveys were conducted to aid in the review of the natural and built environment along each of the alternative corridors. Pertinent data included cultural and historic properties, threatened and endangered species, wetlands, parklands and recreation areas, and floodplains.

Results of each of these categories indicate that for CR5 and CR6, there could potentially be impacts to either wetlands, threatened and endangered species and parklands in station areas; however, it is not known whether this will occur until the time the Locally Preferred Alternative (LPA) is selected, station areas are designed, and environmental surveys are conducted in the field. For the BRT alternative, there could be impacts due to the construction of a fixed guideway along I-90. Once again, however, until the LPA is selected and the project is in preliminary engineering with environmental surveys, the impacts will not be known. Additional information on the environmental conditions along the alternative corridors is discussed in Chapter 9.

As part of the process for planning federally funded transportation projects, it is required that National Environmental Policy Act (NEPA) guidance be followed. NEPA requires that during an Alternatives Analysis (AA), all reasonable alternatives be fully evaluated in terms of their environmental impacts. Subsequently, a Draft Environmental Impact Statement (EIS) is being conducted in conjunction with the AA. This process has begun and will be coordinated with the results of the AA.

1.8 Summary

This Second Level Screening Report provides a comprehensive evaluation of the four alternatives – three build alternatives plus the TSM alternative. The Alternatives Analysis process seeks data to allow the FTA to compare different projects in different regions on similar footing to assure Congress that the most beneficial investments are being made with New Starts funds. As a result, the process requires all build alternatives to be compared to a TSM alternative (the best you can do without a guideway). The commuter connection between the Rockford region and the Chicago region, then, needs to be compared to a level of service that far exceeds what is currently operating in the corridor. The 'benefits' of the project as viewed by FTA are the incremental improvements over the TSM. This creates a high bar for a project in this corridor.

Most of the alternatives show the potential, based on estimated project capital cost, to be considered in the Small Starts category of funding. This 'pot' of Federal funds is not heavily oversubscribed like the New Starts category. However the cost estimates are very close to the upper limit of the New Starts project budget which could be a risk. Additionally, the Small Starts category of funds was initially designed to have 'streamlined' reporting requirements. As the guidance has been developed, and not yet adopted, there has been no streamlining achieved. A project that is seeking to compete for Small Starts funding still needs to meet the rigorous cost efficiency index and modeling requirements that projects in the New Starts category have to meet.

Should continued pursuit of Federal funds be desired, there will be significant additional documentation to position the selected LPA to apply to enter the Preliminary Engineering phase. This effort will take time and will have heavy involvement of the FTA and CMAP.

Detailed Screening Results Relative to All Evaluation Criteria

Measures of Effectiveness	Measure	Alternative		
		TSM	BRT	CR5
MOBILITY IMPROVEMENTS- TRANSIT SYSTEM USAGE				
Daily Transit Trips	Ridership model	2,158	3,757	1,585
Annual Ridership	Ridership Model	550,290	958,035	404,175
Convenience of Trip	Frequency	60 min. peak/120 min. off peak (M-F)	30 min. peak/60 min. off peak (M-F)	AM/PM peak: 3 trains eastbound/ 3 trains westbound
Convenience of Trip	Number of transfers	1	1	1-2
Convenience of Trip	Hours of service	4:45 a.m. to 9:00 p.m.	4:45 a.m. to 9:15 p.m.	5:44 a.m. to 7:52 p.m.
Convenience of Trip	Distance	55 miles	66 miles	74.8 miles
Travel Time	Transit travel times between end points of service	Rockford-Schaumburg: 2hr20 min.	Rockford-Schaumburg: 1hr50 min. / 1hr27 min.	Rockford-Bensenville: 1hr35 min.
MOBILITY IMPROVEMENTS -ACCESSIBILITY				
Intermodal Connection Opportunities	Number of bus and rail connections	Bus to rail:1; bus to bus:34	Bus to rail: 1; bus to bus: 34	Rail to bus: 27; rail to rail:1
MOBILITY IMPROVEMENTS- ENVIRONMENTAL JUSTICE				
Low-Income Population	Number of low income residents within corridor	11,249	11,249	5,626
Minority Population	Number of minority residents within corridor	26,948	26,948	9,778
MOBILITY IMPROVEMENTS- TRANSIT DEPENDENT RIDERS				
Automobile availability	Percentage of households without vehicle	9.5%	9.5%	9.5%

Detailed Screening Results Relative to All Evaluation Criteria (Cont.)

Measures of Effectiveness	Measure	Alternative			
		TSM	BRT	CR5	CR6
COST EFFECTIVENESS – COSTS					
Order of Magnitude Capital Costs	Capital costs	\$74,400,000	\$263,000,000	\$229,700,000	\$247,100,000
Order of Magnitude Operating Costs	Total annual operating and maintenance costs	\$2,800,000	\$5,300,000	\$9,700,000	\$10,200,000
Cost Effectiveness Index (CEI)	Ridership model and costs	n/a	\$59.20	\$105.41	\$66.97
COST EFFECTIVENESS – FUNDING PLAN					
Funding Plan	Strength of capital funding plan	similar	similar	similar	similar
	Strength of operating funding plan	similar	similar	similar	similar



Detailed Screening Results Relative to All Evaluation Criteria (Cont.)

Measures of Effectiveness	Measure	Alternative			
		TSM	BRT	CR5	CR6
TRANSIT SUPPORTIVE LAND USE AND FUTURE PATTERNS- LAND USE					
Consistent with Existing and Future Land Use	Review of existing land use maps	Supportive	Supportive	Somewhat supportive	Supportive
Extent to Which Station Area Can be Developed	Review of comprehensive plans	Minimal	Somewhat	Significant	Significant
Permanence of the project	Type of infrastructure improvements	Capital improvements to existing I-90, park and ride lots	Exclusive BRT lane, park and ride lots	Upgrade to existing tracks including signals, sidings, grade crossings, stations, and parking lots	Upgrade to existing tracks including signals, sidings, grade crossings, stations, and parking lots
Community support for TOD	Review of plans and documents; results of public meetings	Minimal	Minimal	Some	Greater
TRANSIT SUPPORTIVE LAND USE AND FUTURE PATTERNS- NEIGHBORHOODS AND COMMUNITY					
Increased Accessibility	Population of communities within a 3 miles of corridor	312,001	312,001	289,214	342,186
Increased Accessibility	Population within 1/2 mile of station area	24,658	19,640	23,234	22,604

Detailed Screening Results Relative to All Evaluation Criteria (Cont.)

Measures of Effectiveness	Measure	Alternative			
		TSM	BRT	CR5	CR6
ENVIRONMENTAL BENEFITS- NATURAL AND BUILT ENVIRONMENT					
Wetlands	Amount of wetland acreage within ¼ mile of corridor	762	1,323	728	1,182
Threatened and Endangered	No. of protected species present in counties	188	188	145	188
Historic and Cultural	No. of potential impacts to historical/cultural sites	0	0	0	0
Parklands and Recreation Areas	No. of parks and recreation areas potentially to be impacted	0	0	0	1
Floodplains	Amount of flood zone acres with ¼ mile of corridor	1,473	2,688	2,010	2,755

