

# SOUTHEAST CORRIDOR ALTERNATIVES ANALYSIS

DOCUMENT #9

## LOCALLY PREFERRED ALTERNATIVE REPORT

PREPARED BY



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## ALTERNATIVES ANALYSIS DOCUMENTS

1. Detailed Work Scope
2. Purpose & Need
3. Initial Alternatives, Part I: Modes & Technologies
4. Evaluation Methodology
5. Initial Alternatives, Part I Screening and Part II: Conceptual Design
6. Screening of Initial Alternatives, Part II
7. Feasible Alternatives
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9. ***Locally Preferred Alternative Report***

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## I. INTRODUCTION

### A. PURPOSE

The purpose of this report is to summarize the completed Alternatives Analysis (AA) process for the Southeast Transportation Corridor and to provide a detailed description of the Locally Preferred Alternative (LPA) selected for the Corridor. The AA phase of the Federal Transit Administration's (FTA) New Starts process is where potential transportation alternatives for the study corridor are evaluated and the alternative that best meets the goals and objectives of the corridor, the LPA, is selected. As this report explains, the LPA was selected based on the evaluation measures derived from study goals. All steps in the AA process were subject to review and comment by the Technical Advisory Committee (TAC), interested agencies, and the public.

Nine documents were completed as part of the Corridor AA process, with this being the ninth and final. The previous eight documents detailed the process by which the transportation alternatives were selected, refined, and evaluated. The completion of the AA phase of the FTA New Starts program is marked by selection of the LPA, formally adopting the LPA in the Region's fiscally constrained, air quality conforming, long range transportation plan, and eventual submittal to the FTA with a request to move into the Preliminary Engineering (PE) phase of the New Starts program.

Figure 1 Southeast Transportation Corridor

### B. BACKGROUND

#### 1. Study Area

The Southeast Transportation Corridor (Figure 1) encompasses the Chicago Central Area, portions of Chicago's south side, suburban communities in southern Cook County and eastern Will County in Illinois, and western Lake County, Indiana.

#### 2. Purpose and Need for Improvements

The *Purpose and Need Statement* (Document 2) provides an in-depth discussion of the transportation needs of the Corridor, and identifies the following as major problems that impede the mobility and restrict the social and economic welfare of current and future residents, workers and visitors of the Corridor:



- Inadequate access to jobs
- Insufficient mobility
- Future transportation infrastructure insufficient to support growth
- Poor environmental quality
- Quality of life/user cost

### 3. Goals and Objectives

The evaluation of needs concluded that transportation improvements were necessary to address the mobility and accessibility problems of the Corridor. These potential transportation improvements were analyzed and evaluated based on the goals and objectives of *the Purpose and Need Statement*. Table 1 summarizes the goals and objectives that relate to the Corridor's current and future problems documented in this analysis.

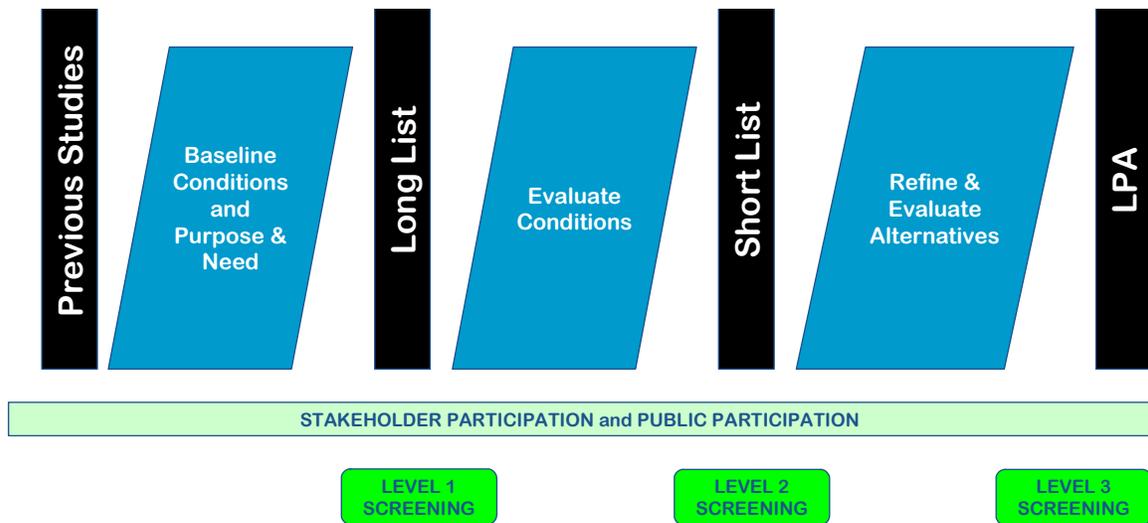
*Table 1 Transportation Corridor Goals and Objectives*

<b>Goals</b>	<b>Objectives</b>
A Improve corridor mobility	Minimize travel times for the employment commute Minimize roadway congestion Maximize transit ridership
B Preserve the environment of the corridor	Minimize fuel consumption Minimize air pollutant emissions Minimize impacts to environmentally sensitive areas Preservation of open space and green areas
C Provide a cost-effective transportation system	Increase transportation-mode choices Minimize investment required to implement improvements Maximize efficiency of the existing transportation infrastructure Improve system's operational efficiency and reliability Be feasible to implement
D Support increased economic development	Increase integration of land use and transportation systems Improve residential development to employment linkages
E Integrate land use planning, design and control in transit system design	Improve multi-modal service to the Chicago Business District and other employment concentrations Achieve consistency with adopted Plans Increase inter-modal options
F Support transit-oriented (re)development	Promote transit-induced economic development Promote transit-supportive land use policies
G Improve Quality of Life for Study Area Residents	Provide access to jobs, education, health care, particularly to low-income and minority populations Reduce automobile dependency

4. Evaluation Methodology

The Evaluation Methodology Report (Document 4) provides a detailed description of the screening process used in the evaluation of potential transportation alternatives for meeting the goals and objectives of the study corridor. The methodology consisted of three systematic screening levels. As the screening process advanced, the evaluation criteria changed from being general and broad to being detailed and specific. Figure 2 illustrates the evaluation methodology.

Figure 2 Evaluation Methodology Flowchart



The evaluation was an iterative process where an increasingly detailed set of evaluation criteria were applied to a decreasing set of alternatives. As part of this Alternatives Analysis, a two-part initial screening was conducted followed by the detailed evaluation that resulted in a recommendation for an LPA.

- **Initial Screening, Part I** – The purpose of the initial screening was to evaluate the full range of alternative modes at a conceptual level, identifying those alternatives with the greatest potential to address the purpose and need of the study. At this stage of analysis, the alternatives were only defined in general terms; therefore, it was not possible to evaluate them with great precision. The screening criteria measured the effectiveness of the alternatives in terms of either qualitative assessments or order-of-magnitude quantities.
- **Initial Screening Part II** – Conceptual alternatives were developed for each alternative mode remaining from Part I. These conceptual alternatives were then evaluated to determine their relative ability to increase capacity, reduce travel times, reduce operating costs, minimize capital costs, and minimize negative environmental impacts. At the conclusion of Part II, a reduced set of conceptual alternatives that included alternative

modes as well as alignments was recommended for further refinement and ultimately, development into detailed alternatives.

- **Detailed Screening** – The purpose of the detailed screening was to provide sufficient information on each alternative to allow local decision makers to select an LPA. Issues raised by the results of the initial screening (costs, operating assumptions, etc.) were examined further and used to define a set of conceptual alternatives prior to beginning the detailed screening. This allowed more detailed assessments of operating assumptions, ridership potential, costs, and environmental impacts. As part of the detailed screening, the regional travel demand model was used to provide initial estimates of ridership.

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## II. SUMMARY OF ALTERNATIVES ANALYSIS

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The Alternatives Analysis began with a wide range of alternatives including the full range of transit modes and a variety of routing options. The three-level screening process reduced this wide range of alternatives down to the Locally Preferred Alternative of the SouthEast Service Commuter Rail Alternative. All levels of the screening process solicited input from the general public and the various advisory committees related to the Southeast Transportation Corridor.

### A. INITIAL SCREENING, PART I

The first level of screening evaluated the potential of all possible transit modes and technologies on their general ability to address the accessibility and mobility issues in the Corridor. The transit modes and technologies evaluated are described in detail in the report *Initial Alternatives, Part I: Modes and Technologies* (Document 3). The results of the first level of screening are summarized in Table 2 and described in detail in *Initial Alternatives, Part I Screening and Part II: Conceptual Design* (Document 5). The results of the first level of screening identified three modes as potential transportation alternatives that could best meet the goals, objectives and needs of the Corridor; Commuter Express Bus, Commuter Rail, and Bus Rapid Transit (BRT).

Table 2 Level One Screening Results

Mode & Technologies	General Service Characteristics	Order of Magnitude of Capital Cost	Right-of-Way Requirements in Study Corridor	Suburban Integration within the Study Corridor	Technical Maturity	Competitive Procurement	Technical Compatibility within the Study Corridor	Institutional Issues within the Study Corridor	Carry Forward
Local Bus	○	◐	●	◐	◐	◐	◐	◐	Yes
Commuter Bus	◐	◐	●	◐	◐	◐	◐	◐	Yes
Bus Rapid Transit	◐	◐	◐	◐	◐	◐	◐	●	Yes
Streetcar	○	◑	◐	◐	◐	◐	◑	◑	No
Light Rail Transit	◐	◑	○	●	◐	◐	◑	◑	No
Heavy Rail Transit	◑	○	○	○	◐	◐	●	◐	No
Commuter Rail	●	◐	◐	●	◐	◐	●	●	Yes
Intercity Rail	○	◐	●	○	◐	◐	●	◑	No
High Speed Rail	○	○	○	○	◐	◐	◐	○	No
Magnetic Levitation	○	○	○	○	○	○	○	○	No
Low Performance Automated Guideway Transit	○	◑	◐	◐	◐	◐	◑	○	No
High Performance Automated Guideway Transit	◐	◑	◑	◐	◐	◐	◑	◑	No
Personal Rapid Transit	○	○	◐	○	○	○	○	○	No

<b>LEGEND:</b>	<b>Very Poor</b> ○	<b>Poor</b> ◑	<b>Fair</b> ◐	<b>Good</b> ◐	<b>Very Good</b> ●
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## B. DEFINITION AND SCREENING OF INITIAL ALTERNATIVES, PART II

Based on the transit modes remaining after the first level of screening, five conceptual alternatives were defined; including two for commuter express bus, two for bus rapid transit and one for commuter rail. In accordance with FTA New Starts guidelines, an additional alternative, the No-Build, was defined, and one of the commuter express bus conceptual alternatives was defined as the Transportation System Management (TSM) Alternative. In addition, one of the BRT conceptual alternatives was defined with three different terminal options. A brief description of each conceptual alternative is given below, and detailed descriptions can be found in *Initial Alternatives, Part I Screening and Part II: Conceptual Design* (Document 5).

*No-Build Alternative:* This alternative incorporates the existing transportation system in the Southeast Transportation Corridor with the transportation projects listed in the adopted Regional Transportation Plan that are either committed, or are included in the State Transportation Improvement Program (TIP).

*TSM Alternative:* This alternative proposes establishing new commuter express bus services from the Southeast Transportation Corridor communities to Downtown Chicago.

*Build Alternative 1 – Bus Rapid Transit (BRT):* This alternative proposes the implementation of BRT service in the shoulder lanes on Illinois 394 and the Bishop Ford Freeway/I-94 starting near the Balmoral Park Race Track in Crete. Three options featuring different northern terminals were developed.

*Option A:* This BRT option's northern terminal is on the south side of the City of Chicago at the 115<sup>th</sup> Street/Kensington Station, served by the Metra Electric District (MED) and the South Shore Line (SS).

*Option B:* This BRT terminates on the north at the CTA Red Line 95<sup>th</sup> Street Station in Chicago, which is also served by many CTA and Pace bus routes. Alternative termini to the 95<sup>th</sup> Street Station include the existing CTA Red Line station at 87<sup>th</sup> Street and the proposed CTA Red Line station at 130<sup>th</sup> Street station.

*Option C:* This BRT option terminates on the north in Downtown Chicago, adjacent to Metra's LaSalle Street Station. From where the Bishop Ford Freeway joins the Dan Ryan Expressway, at approximately 95<sup>th</sup> Street, to close to Downtown Chicago, the BRT would operate in mixed-traffic on the Dan Ryan Expressway.

*Build Alternative 2 – Bus Rapid Transit:* This alternative proposes BRT service operating primarily in the UP/CSX rail right-of-way between Balmoral Park and the 115<sup>th</sup> Street/Kensington Station served by the MED and SS commuter rail lines.

*Build Alternative 3 – Enhanced Express Bus:* This alternative proposes BRT service along Halsted Street/Illinois Route 1 between Balmoral Park and the 115<sup>th</sup> Street/Kensington Station served by the MED and SS. The planned implementation of Traffic Signal Priority (TSP) technology along Illinois Route 1 would be extended to cover the entire length of the route.

*Build Alternative 4 – Commuter Rail:* This alternative proposes new commuter rail service between Downtown Chicago and Balmoral Park using portions of four existing rail rights-of-way, including Metra’s Rock Island District (RID), the Chicago Rail Link (CRL), the Union Pacific (UP), and the jointly owned UP/CSX corridor.

These alternatives were evaluated using the second level of screening, as prescribed by the evaluation methodology. This level of screening included a series of geographic and socio-economic performance measures to gauge the ability of each alternative to meet the project goals and objectives. The results of the second level of screening are summarized in Table 3 and described in detail in *Screening of Initial Alternatives, Part II* (Document 6). The results of the second level of screening identified three conceptual alternatives, in addition to the No-Build Alternative, as having the best potential to address the needs of the corridor while meeting the project goals and objectives:

1. TSM,
2. Build Alternative 1 Option C (BRT), and
3. Build Alternative 4 (Commuter Rail).

Table 3 Level 2 Build Alternative Screening Results

	1A	1B	1C	2	3	4
<b>Improve corridor mobility</b>						
Selected zone to zone travel times in minutes	○	●	○	●	○	●
<b>Preserve the environment of the corridor</b>						
Sensitive uses within 1/2 mile of the project	●	●	●	○	●	○
<b>Support increased economic development</b>						
Area of developed land within 2 miles of boarding points	○	○	○	●	●	●
Population growth within 2 miles of boarding points	●	●	●	○	○	○
Future Employment within 1 miles of boarding points	○	○	○	○	●	○
Access to CBD job center						
Access to key destinations (miles)	○	●	○	○	○	○
Transfers Required to Access Employment Centers	○	●	○	○	○	●
Access to other destinations						
Access to key destinations (miles)	○	○	○	●	●	●
Transfers Required to Access Employment Centers	○	●	○	○	○	●
<b>Integrate land-use planning, design and control in transit system design</b>						
Conformity with Regional Plans	○	○	○	○	○	●
Support transit- development						
Population increase	●	●	●	○	○	○
Jobs increase	●	●	●	○	○	○
<b>Improve Quality of Life for Study Area Residents</b>						
Jobs in 2000	○	○	○	●	●	●
Jobs in 2030	○	○	○	●	●	●
Population 2000	○	○	○	●	●	●
Population 2030	○	○	○	●	●	●
Low income household	○	○	○	●	●	●
Zero Auto Household	○	○	○	●	●	●
<b>Implementation Feasibility</b>						
	●	●	○	○	●	●

Highest performing: solid circle; middle performing: heavy circle; lowest performing: empty circle.

## C. DEFINITION OF FEASIBLE ALTERNATIVES

The four conceptual alternatives (i.e., No-Build, TSM and two build alternatives) that passed the second level of screening were defined in additional detail. Physical and operating characteristics such as alignments, schedules and station locations were developed for each alternative. Brief descriptions of the four feasible alternatives follow; more detailed descriptions are found in *Feasible Alternatives* (Document 7).

### 1. No-Build Alternative

This alternative incorporates the existing transportation system in the Corridor with the transportation projects listed in the adopted 2030 Regional Transportation Plan for Northeastern Illinois<sup>1</sup> that are either committed to or included in the State TIP. Some of the major projects included in the No-Build Alternative are the Dan Ryan Expressway reconstruction (completed in 2008), expansion of the I-80/I-94 Expressway, implementation of Transit Signal Priority (TSP) on Halsted Street and 159th Street, Metra Rock Island District (RID) 35th Street Station (under construction), and the extension of the Metra Electric District (MED) to Peotone. An intermodal transfer facility was under construction on the west side of the Metra RID LaSalle Street Station as of fall 2010, and is treated as part of the No-Build. In addition, the Chicago Region Environmental and Transportation Efficiency Program (CREATE) is advancing several infrastructure projects that affect the north end of RID. These include the RID Englewood Flyover of the Norfolk Southern (NS) and Amtrak at 63rd Street in Chicago, a connection between Metra's SouthWest Service (SWS) to the RID at 75th Street in Chicago, a new third main on the RID north of 51st Street, and expanded capacity of the RID 47th Street Maintenance Facility.

### 2. Transportation System Management Alternative (TSM)

The TSM alternative builds upon the No-Build Alternative with transportation improvements that have low capital costs. The TSM Alternative for the Corridor includes the addition of express commuter bus service between Balmoral Park Race Track and the Chicago Central Area, serving 12 commuter express bus stops. The proposed route would operate partly in mixed traffic along arterial roadways with limited stops and in mixed traffic along limited-access highways with no stops. The limited-stop arterial portion of the alignment will be between Balmoral Park and the Village of Dolton and in Chicago between 35<sup>th</sup> Street and the Central Area. The limited-access highway portion will be along the Dan Ryan Expressway/Bishop Ford Freeway (I-94), between Dolton and 35<sup>th</sup> Street. In addition to the express commuter bus service, the TSM Alternative includes an expanded network of local buses to connect with the express bus service.

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<sup>1</sup> CMAP, Updated 2030 Regional Transportation Plan for Northeastern Illinois, October 2008.

### 3. Commuter Rail Alternative (Build Alternative 4 in Level 2)

The Commuter Rail Alternative proposes the implementation of a new commuter rail service, called the SouthEast Service (SES), between the Chicago Central Area and the Balmoral Park Race Track, serving the south side of Chicago and the south suburbs. The proposed alignment would extend 33.2 miles south from LaSalle Street Station to a terminal near Balmoral Park in Will County, along the following four existing railroad rights-of-way (south to north):

- Joint Union Pacific/CSX Transportation freight corridor from Balmoral Park to Dolton Junction
- Union Pacific (UP) from Dolton Junction to Oakdale Junction
- Chicago Rail Link (CRL) from Oakdale Junction to Gresham Interlocking
- Metra Rock Island District (RID) from Gresham Interlocking to LaSalle Street Station

SES will feature thirteen stations along the 33.2-mile alignment, including ten new stations and three existing stations. The three existing stations are on the RID, within the City of Chicago. In addition, the Commuter Rail Alternative includes an expanded network of new local/feeder bus routes and modifications to existing fixed-route services to connect with the SES. New feeder bus service would likely be operated by Pace; modifications to existing bus services involves both Pace and CTA.

### 4. Bus Rapid Transit Alternative (Build Alternative 1, Option C in Level 2)

The Bus Rapid Transit Alternative proposes the implementation of new BRT service between Balmoral Park Race Track and the Chicago Central Area, serving the south side of Chicago and the south suburbs. The proposed alignment would extend north from a terminal near Balmoral Park Race Track along the Bishop Ford Freeway (I-94/IL 394)/Dan Ryan Expressway corridor to LaSalle Street Station. The BRT would operate in bus-only, right-hand shoulder lanes on the Bishop Ford Freeway/IL 394 and then in mixed-traffic on the Dan Ryan Expressway.

## **D. DETAILED FINAL SCREENING**

The intent of the detailed screening was to provide sufficient information on each alternative to inform local decision-makers in selecting an LPA. Issues raised by the results of the initial screening (costs, operating assumptions, etc.) were examined further and used to define a set of conceptual alternatives prior to beginning the detailed screening. This allowed a finer-grained assessment of operating assumptions, ridership potential, costs, and environmental impacts. As part of the detailed screening, the Chicago New Starts travel demand model was used to provide initial estimates of ridership and traffic impacts.

Once the feasible alternatives were defined, they were evaluated using the third and final level of screening, as prescribed in the evaluation methodology. This involved evaluating the three feasible alternatives using measures of performance that best assess the ability of each alternative to meet the goals and objectives of the Corridor. Detailed analyses of the third level of screening are found in *Screening of Feasible Alternatives* (Document 8).

The overall alternative ratings were derived by assigning numeric values to each goal rating, where High=5, Med-Low=4, Medium=3, Med-Low=2 and Low=1. A numerical average was computed for each alternative, which was used to determine the summary ratings based on breakpoints between the five levels (e.g., Medium = 2.50-3.49). The ratings for each goal and the overall (average) ratings are shown on Table 4.

The results for Table 4 reveal that commuter rail rated highest among the three alternatives, achieving an overall rating of Medium-High and High on five of seven goals. TSM and BRT both rated overall at the Medium level, although the numeric average for TSM was higher than for BRT.

*Table 4 Screening Summary*  
(Ratings based on numeric assignments, where High=5, Low=1)

Goal	TSM	CRT	BRT
<b>A.</b> Improve Corridor Mobility	Med-Low (2)	High (5)	Medium (3)
<b>B.</b> Preserve the Environment of the Corridor	Med-High (4)	Medium (3)	Medium (3)
<b>C.</b> Provide a Cost-Effective Transportation System	Med-High (4)	Medium (3)	Med-Low (2)
<b>D.</b> Support Increased Economic Development	Medium (3)	Med-High (4)	Med-Low (2)
<b>E.</b> Integrate Land Use Planning, Design and Control in Transit System Design	Medium (3)	High (5)	Med-Low (2)
<b>F.</b> Support Transit-Oriented Development	High (5)	High (5)	Medium (3)
<b>G.</b> Improve Quality of Life for Study Area Residents	Medium (3)	High (5)	Medium (3)
Overall (Average) Rating	Medium (3.4)	Med-High (4.3)	Medium (2.6)

Since the ultimate aim of this effort is to secure capital funding through the FTA's New Starts program to implement the recommended LPA project, it is important to know that the selected alternative achieved the highest performance on the locally-developed measures used in the competitive FTA New Starts selection process. All of these indicators were included in evaluating the feasible alternatives in this Level 3 screening process. However, due to the emphasis placed on cost-effectiveness in the New Starts rating process, it can be important to use the same method

of calculation as is used by the FTA. Table 5 presents the FTA cost-effectiveness indicator for the two build alternatives (i.e., CRT and BRT) and their anticipated cost-effectiveness ratings. The New Starts evaluation process compares build alternatives to the baseline, which for the Southeast Corridor Alternatives Analysis is the TSM. Some data for the TSM is shown in Table 5, although the measure of cost-effectiveness is not, since a comparison with itself would not have meaning. It is clear that the CRT alternative performed significantly better than BRT due to transportation benefits being higher by over 20-fold. It is important to note that the cost-effectiveness criterion is one of many factors used by FTA in evaluating New Starts projects, and a comparatively low rating in cost-effectiveness could be offset by high ratings in other criteria.

*Table 5 FTA Cost-Effectiveness Indicators*

	TSM	CRT	BRT
Average Weekday User Benefit (hours)	n/a	5,240	240
Average Weekday Riders (2030)	3,200	18,700	4,100
Annual User Benefits (hours)	n/a	1,310,000	60,000
Annualized Capital Costs (2010\$)	\$4.2M	\$54.5M	\$22.9M
Annual Operating Costs (2010\$)	\$7.6M	\$28.2M	\$12.1M
Incremental Cost per Hour of User Benefit Index (2010\$)	n/a	\$54	\$387
Overall Cost Effectiveness Rating	n/a	Low	Low

Based on the results of the Level 3 screening process and the New Starts measures of cost-effectiveness, the Commuter Rail Alternative was recommend as the LPA for the Corridor. This alternative surpassed both the TSM and BRT Alternatives in addressing the purpose and need of the study area through achieving the goals and objectives of this project. In addition, the Commuter Rail Alternative will be the more competitive in the FTA New Starts program.

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### III. PUBLIC INVOLVEMENT SUMMARY

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#### A. STAKEHOLDER AND PUBLIC MEETINGS

Public involvement took place throughout the Corridor Alternatives Analysis (AA) process from initial review of study area needs through review of the recommended LPA. Technical Advisory Committee (TAC) and public comments were incorporated at each step. Input at strategic points during the study was actively sought from targeted stakeholders including local government planners, the South Suburban Mayors and Managers Association (SSMMA) and the SouthEast Service Business Alliance.

Public involvement activities included the following meetings:

- Technical Advisory Committee Meeting #1 (February 27, 2006)
- Technical Advisory Committee Meeting #2 (June 27, 2006)
- First round of Public Information Meetings (July 26 and July 27, 2006)
- Village of Chicago Heights Station Siting Meeting (August 15, 2006)
- Village of South Chicago Heights Station Siting Meeting (August 16, 2006)
- Village of Thornton Station Siting Meeting (August 16, 2006)
- Village of Crete Station Siting Meeting (August 17, 2006)
- Village of South Holland Station Siting Meeting (August 17, 2006)
- Village of Steger Station Siting Meeting (August 17, 2006)
- Village of Dolton Station Siting Meeting (August 22, 2006)
- Village of Glenwood Station Siting Meeting (September 6, 2006)
- SouthEast Service Business Alliance and SSMMA Meeting (December 10, 2007)
- Other South Suburban Mayors and Managers Association meetings (various)
- Chicago Southland Economic Development Corporation (CSEDC) Quarterly Economic Development Forum (January 22, 2010)
- Southeast Commuter Rail Development Board (September 30, 2009 & March 31, 2010)
- Technical Advisory Committee Meeting #3 (August 24, 2010)
- Second round of Public Information Meetings (September 22 and 28, 2010)

Public feedback on the AA process that led to the proposed LPA occurred at meetings in the above list. In addition to meetings, the Metra SES website provided the latest study information including public meeting exhibits (<http://metraconnects.metrarail.com/ses.php>). The public was also able to submit comments via the project website.

Following each round of meetings, comments were received and incorporated into the alternatives under study. Input from agencies, elected officials and the public were vital in shaping the alternatives and gauging support for the LPA.

## **B. SUMMARY OF PUBLIC REVIEW COMMENTS OF PROPOSED LPA**

Public information meetings on the initial slate of alternatives were held in 2006. A second round of public meetings on September 22 and 28, 2010 solicited feedback on the proposed LPA. Both rounds of public information meetings included a presentation of the study process, and the second round included the description of the LPA recommendation. Displays were available around the meeting rooms along with multiple Metra representatives to discuss and respond to questions specific to individual interests. Approximately 60 people attended the first round of public meetings; about 20 people attended the 2010 meetings. The second round of meetings generated four comments from the comment forms.

A summary of comments (verbal and written) made at the September 2010 public meetings follows:

- The majority of attendees who expressed their opinion favored the new commuter rail.
- Direct access to Sox Park is a great idea.
- The South Chicago Heights and Steger stations are too close together.
- Public notification of the meetings was poor.
- Metra should look to users of the system to fund and operate projects.
- SES duplicates Metra Electric District (MED) Service. A more cost-effective project would invest in MED.
- Station and parking control should be a Metra responsibility, not the local municipality.
- The proposed by-pass track around Yard Center comes very close to existing homes.
- Local auto traffic will be impacted by the rail service.
- Late evening service should be provided to accommodate shift workers.

#### IV. LOCALLY PREFERRED ALTERNATIVE

The results of the three-level screening process prescribed by the evaluation methodology recommended the Commuter Rail Alternative, known as the SouthEast Service (SES), as the LPA for the Southeast Transportation Corridor. Members of the Technical Advisory Committee (TAC) voiced their support for the selection of the SES as the LPA. The LPA, as described below, will be submitted to the FTA along with a request to proceed into the Preliminary Engineering phase of the New Starts process. This section provides a description of the general characteristics of the SES; Document 7, *Feasible Alternatives*, contains a more detailed description.

##### A. GENERAL DESCRIPTION

The Commuter Rail Alternative features new commuter rail service in the Southeast Transportation Corridor using conventional commuter Metra rolling stock and an improved and expanded local bus network. The alignment of the commuter rail line, known as the SES, uses existing freight and commuter railroad rights-of-way south from the Chicago Central Area to a terminal station near Balmoral Park Race Track in the Village of Crete. The SES is 33.2 miles in length and serves thirteen stations in the City of Chicago and the south suburbs, which are listed on Table 6. Figure 3 illustrates the alignment, stations and connecting services.

Table 6 SES Stations

Station	Municipality	Status	Miles to LaSalle St.	Fare Zone
LaSalle Street	City of Chicago	Existing RID	0.0	A
35th Street	City of Chicago	Existing RID*	3.1	A
Gresham	City of Chicago	Existing RID	9.8	B
115th/Michigan	City of Chicago	New	14.1	C
Dolton	Village of Dolton	New	17.7	D
South Holland	Village of South Holland	New	19.9	D
Thornton	Village of Thornton	New	21.7	E
Glenwood	Village of Glenwood	New	23.8	E
Chicago Heights	City of Chicago Heights	New	27.3	F
South Chicago Heights	Village of South Chicago Heights	New	28.7	F
Steger	Village of Steger	New	29.4	F
Crete	Village of Crete	New	31.2	G
Balmoral Park	Unincorporated Will Co.	New	33.2	G

\*In construction as of fall 2010.

Figure 3 Locally Preferred Alternative – SouthEast Service



## **B. OPERATING PLAN**

The SouthEast Service alignment uses parts of four existing railroad rights-of-way. Heading south from the Chicago Central Area, the alignment follows Metra's Rock Island District (RID) between LaSalle Street Station and the Gresham Interlocking. At Gresham Interlocking, the alignment switches to the Chicago Rail Link (CRL) and travels one-half mile east to Oakdale Junction where it diverges southward to the Union Pacific's (UP) right-of-way. South of the Chicago city limits, the SES alignment uses a proposed flyover at Dolton Junction and a single-track bypass around the east side of Yard Center before rejoining the main line of the UP/CSX jointly owned right-of-way and continuing south to a terminal station near Balmoral Park Race Track. At the terminal station, the alignment diverges from the main line onto a yard lead track to the east, from which it accesses the terminal station and the overnight storage and maintenance facility.

### **Schedule**

A series of operating schedules were developed for the SES, including peak-period and all-day service ranging from 12 to 28 trains per day. After preliminary travel demand modeling, it was determined that a 24-train schedule with service focused during the peak periods would produce the greatest amount of benefit. The final schedule features 24 trains per weekday, with seven peak-period, peak-direction trains and two peak-period, reverse-commute trains during both the morning and afternoon peak periods. This schedule also includes midday and evening service. SES would have a running time of approximately 75 minutes from Balmoral Park to LaSalle Street Station.

### **Average Frequency**

The schedule operates at approximately 25-minute headways (i.e., time between trains in the same direction) in the peak-period, peak-direction and at approximately 60-minute headways in the peak-period, reverse commute direction.

### **Vehicle Characteristics and Requirements (including Spares)**

SES would use the same vehicle technology that Metra uses on its ten existing diesel lines. Eight new diesel locomotives, 47 gallery coach cars and 15 gallery cab cars are required to operate the proposed SES. An additional 24 buses are needed to operate the improved and expanded local bus network. Improvements to existing service would involve Pace Suburban Bus and CTA; new bus service is presumed to be operated as a Pace service, although the possibility of another operator exists.

### **Number of Seats**

The average seating capacity of a gallery car on the SES would be 150. Operating eight car consists will provide approximately 1,200 seats per train, or 28,800 daily seats.

### **Fare Policy**

Commuter rail fares on the Metra system are set according to travel between designated fare zones. Metra zones are spaced at five-mile intervals, according to track miles, from the respective Downtown Chicago terminal. A base fare of \$2.25 is charged for travel within one zone, and an incremental charge is added for each zone boundary crossed. Generally, the incremental charge is \$0.50 per zone. Table 7 shows the current Metra zone-based fare structure, as it would apply to the SES.

In addition to the standard one-way fares found in Table 7, Metra offers a variety of other fare options including ten-ride tickets, monthly tickets, and student fares. In addition, the Regional Transportation Authority (RTA) offers free rides to eligible seniors and low-income persons with disabilities. Additionally, reduced fares are available for persons with disabilities who do not qualify as low-income. All of these ticket types will be available to passengers on the SES.

Fares on the SES will be collected in the same manner as on all other Metra rail lines. Conductors on-board the vehicles check each passenger's ticket and passengers without pre-purchased tickets can purchase them from the conductor.

*Table 7 Commuter Rail Alternative One-Way Fare Structure*

<b>Zone</b>	<b>Stations</b>	<b>Miles</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
A	LaSalle 35th Street	0.0 - 5.0	\$2.25						
B	Gresham	5.1 - 10.0	\$2.50	\$2.25					
C	115 <sup>th</sup> /Michigan	10.1 - 15.0	\$3.50	\$2.50	\$2.25				
D	Dolton South Holland	15.1 - 20.0	\$4.00	\$3.50	\$2.50	\$2.25			
E	Thornton Glenwood	20.1 - 25.0	\$4.50	\$4.00	\$3.50	\$2.50	\$2.25		
F	Chicago Hts. S. Chicago Hts. Steger	25.1 - 30.0	\$5.00	\$4.50	\$4.00	\$3.50	\$2.50	\$2.25	
G	Crete Balmoral Park	30.1 - 35.0	\$5.50	\$5.00	\$4.50	\$4.00	\$3.50	\$2.50	\$2.25

SOURCE: Metra; effective February 1, 2010.

### **C. CONNECTING SERVICES**

The Commuter Rail Alternative features a series of new and modified CTA and Pace bus routes that connect residential developments and employment centers to SES stations. Table 8 lists the

number of new bus routes that will serve each SES station, including existing routes that are proposed to be modified. The number of CTA rapid transit stations proximate to SES stations is also shown. Maps of the connecting services are found in Appendix D of *Feasible Alternatives* (Document 7).

*Table 8 Connecting Transit Service to SES Stations*

Station	New Feeder Bus	Bus Routes		CTA Rapid Transit	
		Pace	CTA	Existing	Proposed
Balmoral Park					
Crete	1				
Steger	1				
South Chicago Heights.		1			
Chicago Heights		6			
Glenwood	1				
Thornton	1	1			
South Holland					
Dolton		3			
115th/Michigan		1	4		1
Gresham			3		
35th Street			3	2	
LaSalle Street			3	2	
Total	4	12	13	4	1

## D. INFRASTRUCTURE NEEDED TO SUPPORT OPERATING PLAN

### Railroad Infrastructure

A series of major railroad infrastructure improvements are required to implement SES. These changes are necessary to ensure that the commuter rail service can operate efficiently and reliably. The basis for the recommended improvements was from results of an application of a railroad dispatching simulation model called the Line Capacity Analysis System (LCAS).<sup>2</sup> LCAS is a computer program that combines a description of a railroad corridor (existing and proposed infrastructure) with a train operating plan (passenger and/or freight trains, existing or proposed schedules) and then simulates all the train movements within the corridor. At the end of its processing, LCAS tallies each train's running time and amount of delay incurred. These statistics become the foundation for assessing the performance of a corridor and train plan combination as well as identifying the infrastructure's constraints. Infrastructure improvements are highlighted

<sup>2</sup> Canac, SouthEast Service Operations Study, February 2005.

through this iterative process. Simulations for this study were broken down into two corridors: the UP/CSX Corridor and the Rock Island District Corridor.

From south to north, the major infrastructure changes required are:

- Upgrading the UP/CSX and UP main line tracks from Class 3 (40mph freight / 60mph passenger) to Class 4 (60 / 79) between Balmoral Park and Oakdale Junction.
- A single-track bypass around Yard Center, which will eliminate the need for SES trains to operate through the yard facility.
- A flyover at Dolton Junction (the structure will be built to accommodate two tracks, but only one deck and track will be installed), which will eliminate conflicts between SES and freight trains at this heavily utilized interlocking.
- New bridges over the Little Calumet River and the Calumet River.
- Double-tracking the CRL between Oakdale Junction and Gresham Interlocking and upgrading the existing track to handle speeds up to 40 mph.
- A new double-track connection between the CRL and the RID at Gresham Interlocking.

Additional infrastructure improvements include upgrading highway at-grade crossings, improving signal and communications systems, and adding strategic crossovers along the alignment.

The data for the simulation model application were obtained from the host railroads. Simulation results were shared with the railroads, who participated in identifying the infrastructure necessary to accommodate their future traffic as well as new commuter service. While the railroads have not committed to the operation of SES on their physical plants, they continue to participate in defining the project. All parties agree that the negotiation for sharing the use of private-owned railroad assets, and of compensation, will come later in the project development process.

### **Station Facilities**

SES serves thirteen commuter rail stations along the alignment, from the south suburban Village of Crete to the Chicago Central Area. Three of the stations are existing stations currently served by the RID (LaSalle Street, 35<sup>th</sup> Street<sup>3</sup>, and Gresham); the other ten are new stations. Funding for new stations and commuter parking facilities along the SES is the responsibility of the host communities. Each station will meet Metra's minimum requirements for stations, which include ADA compliance, a warming shelter and windbreaks along 850' platforms. In addition, all stations feature a bus interchange, kiss-n-ride, and park-n-ride facilities where space permits.

### **Maintenance Facilities**

The Commuter Rail Alternative will have two storage and maintenance facilities for the SES vehicle fleet. Overnight storage and light maintenance will take place at the new Balmoral Yard, set on a

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<sup>3</sup> The 35<sup>th</sup> Street Station was under construction as of fall 2010. It is included in the No-Build Alternative and will be opened prior to the implementation of the SouthEast Service.

site adjacent to the UP/CSX right-of-way, just north of Elmscourt Lane. Midday storage and heavy maintenance will occur at Metra's existing 47<sup>th</sup> Street Yard. The expanded capacity of the yard programmed as part of the shift of SWS trains to LaSalle Street Station, as described in the No-Build will accommodate SES equipment.

A service and storage facility to handle the increased number of buses necessary to operate the improved and expanded local bus network is planned for a site adjacent to the Balmoral SES Yard. Alternatively, maintenance of the fleet for the additional bus service may be accomplished by expansion of existing Pace maintenance facilities.

### **Terminal Stations**

The Balmoral Park Station, located north of Elmscourt Lane on the east side of the UP/CSX right-of-way, serves as the southern terminus for the SES. The station and platform are located adjacent to a track leading into the storage and light maintenance yard facility. The station features a bus interchange, kiss-n-ride, and park-n-ride facilities. The station and yard facility will be accessible from a new access road off of Dixie Highway (IL 1).

The existing Metra LaSalle Street Station serves as the Downtown Chicago terminal for SES. The station is the terminal for the RID, and is the planned terminal for Metra's SouthWest Service. LaSalle Street Station features eight elevated tracks and five elevated platforms connected to the building that houses the Chicago Board Options Exchange and the Midwest Stock Exchange. The station is ADA compliant with stairs, escalators and elevators to connect commuters to the street level. Minor capital improvements at the terminal will be made to accommodate SES trains and passengers. The LaSalle Street Intermodal Transfer Facility, to be located adjacent to LaSalle Street Station along Financial Place, between Harrison Street and Congress Parkway, will connect SES passengers to numerous CTA buses that will serve the facility<sup>4</sup>.

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<sup>4</sup> The LaSalle Street Intermodal Transfer Facility, which is included in the No-Build Alternative, is planned to open in 2011.

### **Intermediate Stations**

The SouthEast Service includes two existing<sup>5</sup> and nine new intermediate stations. Improvements to the existing intermediate stations are included to accommodate SES. All of the intermediate stations are located along existing main line tracks, except for the South Holland and Dolton Stations, which are located on a new bypass track around Yard Center and a new flyover at Dolton Junction, respectively. All of the new intermediate station platforms will be at-grade except for the Dolton Station, which will have a station house at street-level and platforms elevated on the flyover. Besides the Dolton and South Holland Stations, all intermediate stations along SES will be double-track stations with one platform on each side of the right-of-way. Proposed improvements to the Gresham Station include a second platform on the east side of the proposed connecting track between the CRL and RID. This station will also be made ADA accessible and a connection to the existing platform, which is served by the RID, will be constructed within the embankment.

All of the intermediate station areas have the potential for transit-oriented development. The intermediate stations located in the south suburbs are all in, or near, suburban downtown locations. The stations located within the City of Chicago are located in areas that are higher-density and are currently seeing mixed-use redevelopment.

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<sup>5</sup>The 35<sup>th</sup> Street Station on the Rock Island District is considered existing since it is included in the No-Build Alternative.

V. PROJECTED IMPLEMENTATION SCHEDULE

The following high-level schedule provides an indication of the duration that could be expected to implement SES. There are four principal New Starts stages:

1. Preliminary Engineering (PE)
2. NEPA Environmental Assessment (EA)
3. Final Design (FD)
4. Construction

The schedule does not make an assumption on when FTA would grant approval for entry into PE, which would be the next step towards implementation following this current work. Steps 1 and 2, PE and NEPA EA, would be prepared concurrently. FTA would also need to grant approval to complete Final Engineering and Design. The final major approval would be the Full Funding Grant Agreement (FFGA), which would allow the project to move into construction. The seven-year timeframe should be regarded as a very rough approximation. The actual development timeline can vary widely based on a whole host of factors, with funding availability being the most likely factor contributing to delay.

Figure 4 High-Level Implementation Schedule

	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Year 7			
	Q1	Q2	Q3	Q4																								
AA & NEPA Scoping Completed																												
FTA Approval to enter PE																												
Preliminary Engineering (PE)																												
NEPA EA																												
FTA Approval to enter Final Design																												
EA - Finding of No Significant Impact																												
Final Engineering & Design (FD)																												
Full Funding Grant Agreement																												
Construction																												
Revenue Service																												

## VI. COST ESTIMATE

### A. CAPITAL COSTS

SES capital costs were estimated using unit costs developed for Metra and in accordance with FTA's Standard Cost Categories (SCC) for Capital Projects. The cost elements include infrastructure, right-of-way acquisition, rolling stock, design engineering, construction management and other costs related to project administration. The capital cost estimate for the LPA is \$778.1 million (2010 dollars). As this project moves into future phases of the New Starts program, the capital cost estimate will be updated to reflect any changes to the project definition or capital cost assumptions. Table 9 summarizes the estimated capital cost by major FTA category. At this stage of project definition, a comparatively high contingency is included, totaling \$163.6 million (\$126.5m allocated to specific project categories and \$37.1m unallocated), or 21% of total costs.

*Table 9 Cost Estimate by Project Element (in 2010 \$)*

FTA Category	Capital Cost in \$millions			% of Total
	Without Contingency	Contingency	Base Year Total	
10 Guideway & Track Elements	\$156.8	\$47.1	\$203.9	26%
20 Stations, Stops, Terminals, Intermodal	36.6	11.0	47.6	6%
30 Support Facilities: Yards, Shops, Admin. Bldgs.	14.0	4.2	18.2	2%
40 Sitework & Special Conditions	47.6	14.3	61.9	8%
50 Systems	56.3	16.9	73.2	9%
60 R.O.W., Land, Existing Improvements	13.7	5.5	19.2	2%
70 Vehicles	183.9	27.6	211.5	27%
80 Professional Service (applies to 10-50)			105.6	14%
90 Project Reserve Contingency (% of 10-80)			37.1	5%
100 Finance Charges			0.0	0%
<b>Base Year Total (2010 \$\$)</b>	<b>\$509.0</b>	<b>\$126.5</b>	<b>\$778.1</b>	<b>100%</b>

### B. OPERATING COSTS

In accordance with FTA New Starts guidelines, annual operating and maintenance costs were estimated for the LPA. The operating and maintenance cost model used to prepare the estimates uses inputs such as guideway miles, train-miles, train-hours, and car-miles. The estimated annual operating and maintenance cost for the LPA is \$28.2 million in 2010 dollars. This amount is

comprised of \$23.2 million for commuter rail operations and \$5.0 million in feeder bus costs. These numbers represent gross annual costs and are not offset by passenger fares or other system-generated revenues.

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## VII. PROJECTED RIDERSHIP

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SES ridership in 2030 is expressed as weekday passenger boardings. For the design year 2030, the projected ridership is 18,700. Table 10 breaks down boardings by fare zone, which are combined for adjacent zones after Zone A. Ridership for Zone A comprises 48% of the line's total weekday boardings, which indicates that most riders travel to or from Zone A.

*Table 10 SES Projected 2030 Ridership*

Fare Zone Pair	SES Stations	Weekday Boardings (2030)	% of Total	% not including A
A	LaSalle Street, 35th Street	9,000	48%	--
B-C	Gresham, 115th Street	2,700	14%	28%
D-E	Dolton, South Holland, Thornton, Glenwood	4,300	23%	44%
F-G	Chicago Heights, South Chicago Heights, Steger, Crete, Balmoral Park	2,700	14%	28%
Total		18,700	100%	100%

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## VIII. NEXT STEPS

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The LPA will need to go through a series of additional steps in order to continue into the next phase of the New Starts process. These steps are summarized below:

### **A. FINANCIAL PLAN**

A viable capital and operating financial plan that incorporates Metra's existing system and the proposed expanded transit service will need to be developed. This plan will be based on the capital costs and operating cost estimates defined in the alternatives analysis and overall system operating and maintenance estimates. The plan will also make reasonable assumptions about the projected sources of capital and operating funds for the existing system and the expanded transit service including the local share needed to match any federal New Starts capital funds. Meeting the local match requirements may be aided by the Southeast Commuter Rail Transit District, which was created by State legislation in March 2011. The District can apply for public and private funds, acquire property for stations, and enter into public-private partnerships to build and maintain the line and its facilities.

### **B. FISCALLY CONSTRAINED REGIONAL TRANSPORTATION PLAN**

On October 13, 2010, the Chicago Metropolitan Agency for Planning (CMAP) adopted *GO TO 2040*, the region's long range transportation plan. The SouthEast Service was identified as a project in the fiscally unconstrained portion of the plan. In order for the SouthEast Service to move forward into Preliminary Engineering, the project will need to be in the fiscally constrained long range regional transportation plan, necessitating a revision to *GO TO 2040*.

### **C. SUBMITTAL TO FTA / REQUEST TO ENTER PE**

Once the financial plan is developed and the project is included in the fiscally constrained long range regional transportation plan, a request to enter Preliminary Engineering can be submitted to FTA. This request will include results of the AA (including this LPA document), New Starts templates, land use data, the financial plan, and other supporting materials.

### **D. ENVIRONMENTAL ANALYSIS**

The environmental analysis process was initiated with an agency scoping meeting held on August 24, 2010. Based on screening of the potential affected environment, an Environmental Assessment (EA) is the expected document for this project. Progress on the EA will continue in coordination with Preliminary Engineering (pending approval to enter Preliminary Engineering by FTA). Additional information on the possible environmental impacts of the project and on early

coordination with various regulatory agencies is found in the SES Environmental Scoping Document.

#### **E. CONTINUED COORDINATION WITH STAKEHOLDERS**

Coordination with FTA, the Union Pacific Railroad (UPR), CSX Railroad, Chicago Rail Link (CRL), Pace, CTA, other interested agencies, and affected communities will continue through approval to enter Preliminary Engineering and throughout the future phases of the New Starts project development process.

#### **F. RESOLUTION OF OUTSTANDING ISSUES**

Progress toward resolution of outstanding issues will continue until and following approval to enter Preliminary Engineering. At this time, these issues include:

- Coordination with the UPR, CSX, and CRL for the shared use of tracks
- Coordination with the CTA and CDOT on issues related to SES and Red Line Extension