U.S. 71 Transit Study

TIER TWO SCREENING REPORT

May 2013

MARC Mid-America Regional Council

Jackson County Missouri

City of Fountains Heart of the Nation Kansas City Missouri

kcATA Kansas City Area Transportation Authority

Table of Contents

List of Tables

List of Figures

1 INTRODUCTION

PROJECT BACKGROUND

The Mid-America Regional Council (MARC), Jackson County, the City of Kansas City, Missouri, and the Kansas City Area Transportation Authority (KCATA) initiated the U.S. 71 Transit Study to identify transit improvements within the study area originating in the regional core area (downtown Kansas City /Crown Center) and extending south to the Cass County line.

The intent of the study is to reach decisions on a Locally Preferred Alternative (LPA), defined in terms of transit mode and general alignment.

The goals and the problems to be addressed within the study area are more fully presented in the *U.S. 71 Purpose and Need Report* (January 2013), which also identifies the major travel markets that could benefit from improved transit service.

PURPOSE OF THE PROJECT

The purpose of a proposed transit investment within the U.S. 71 study area is to provide a meaningful transit alternative to the current mixed-traffic, peak hour-only bus service on U.S. 71. Current congestion on U.S. 71 challenges the ability of the transit system to be time competitive with the automobile for commuting and other trip purposes. Additionally, the transit-dependent population in the study area needs a transit option that allows added mobility options throughout the region. This project should also catalyze redevelopment in and near transit centric activity centers (current and future) and increase the regional transit mode share, thereby reducing emissions from automobiles.

NEED FOR THE PROJECT

Project stakeholders have identified three categories of need for a major transit investment in the U.S. 71 study area: *Transportation, Land Use / Economic Development, and Sustainability / Livability.*

Transportation Need Statements

- Improve travel time for travelers, making transit time competitive with the automobile and enhance the transit users' travel experience.
- Connect the U.S. 71 Study area with the greater Kansas City metropolitan area via multimodal transportation options.
- Serve and enhance the mobility of transit-dependent users in the study area.

Land Use / Economic Development Need Statements

- Connect key activity centers in the study area with enhanced transit as a strategy for enticing development and redevelopment of these areas.
- Support neighborhood revitalization through the development of station-area nodes along the corridor.
- Support local planning initiatives that call for enhanced transit for their residents.

Livability / Sustainability Need Statements

- Increase transportation options for study area residents and reduce dependence on automobiles.
- Promote the protection, preservation and access to key environmental assets in the study area.
- Promote workforce development in the study area through better job access and through direct jobs offered by enhanced transit.

PURPOSE AND STRUCTURE OF THE TIER 2 SCREENING REPORT

The Tier 2 Screening Report defines refined set of mode and alignment alternatives, documents the Tier 2 Screening of these alternatives, and identifies the alternative to be considered for a Locally Preferred Alternative (LPA). The methodology employed for the screening results is documented in the *Evaluation Methodology Report* (August 2012) and is consistent with FTA guidance for the evaluation of alternatives provided in FTA's *Procedures and Technical Methods for Transit Project Planning.*

The Tier 2 Screening Report is divided into the following sections:

- Definition of Tier 2 Alternatives
- Tier 2 Screening Methodology and Criteria
- Tier 2 Screening Results
- Summary of Alternative recommended as the Locally Preferred Alternative.

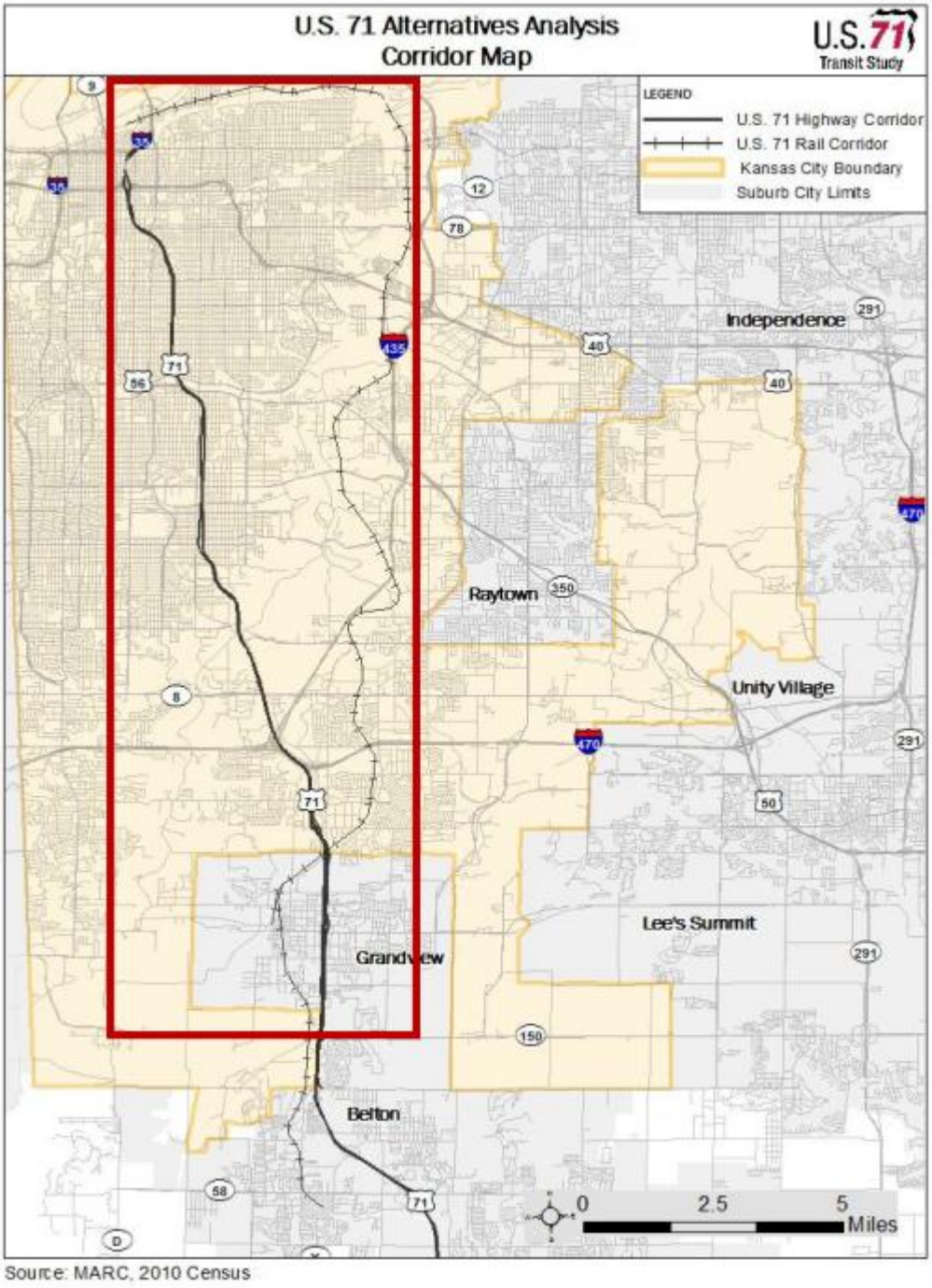

Figure 1: U.S.71 AA Study Area

2 DEFINITION OF TIER 2 ALTERNATIVES

This section summarizes the analysis of the Tier 1 alternatives and describes the alternatives evaluated in the Tier 2 Screening. The alternatives include a No Build Alternative, a relatively low cost Transportation System Management (TSM) Alternative, and a range of capital intensive mode and alignment alternatives defined as discrete Build Alternatives.

DEVELOPMENT OF TIER 2 ALTERNATIVES – TIER 1 SCREENING SUMMARY

The evaluation framework to be used in the U.S. 71 Transit Study consists of a two-tiered screening process. To begin, the project team conducted a "pre-screening" to identify the long list of alternatives from the infinite universe of alternatives that could be considered. The pre-screened alternatives were then evaluated in Tier 1 using a set of evaluation criteria derived from the Purpose and Need Report, and relatively "high level" analysis results. The Tier 1 Screening identified a short list of the most promising alternatives to be carried forward for more detailed analysis and evaluation. The Tier 2 Screening will result in the selection of a single LPA defined in terms of mode and general alignment.

The Tier 1 screening considered modal and alignment alternatives to identify those most likely to meet the stated purpose of and need for the project. Evaluation criteria were mostly qualitative and subjective measures that were detailed enough to identify strengths and weaknesses of each alternative in the project's context. For each evaluation measure, the alignment and technology alternatives were rated on a scale of Best, Good, and Less Good, with the "Best" rating representing the most promising alternative and "Low" representing the least promising. The poorest performers were recommended for elimination from further consideration.

After the Tier 1 screening was complete, the most promising mode and alignment alternatives were moved forward into Tier 2 for more intensive analysis. A simultaneous Alternatives Analysis for the Jackson County Commuter Corridors (JCCC) was completed during this timeframe. The JCCC AA Locally Preferred Alternative identified the Rivermarket common line as the preferred alignment into the urban area. Therefore, the Rivermarket is used in the Tier 2 analysis of the US 71 alternatives because the DMU alternative for the US 71 AA would use the same common line. The alternatives forwarded to Tier 2 analysis are summarized in Table 1 and Table 2.

Table 1: Alternatives Recommended for Tier 2 Screening

Alternatives Recommended for Tier 2 Screening	
No Build	"No Action"—Alternative includes all highway and transit projects identified in the fiscally constrained MARC 2040 LRTP and recommendations from the KCATA CSA.
TSM	Relatively low cost improvements that represent best that can be done to improve transit service short of a major capital investment. Alternative includes KC Scout enhancements on U.S. 71 as appropriate, two new park-and-ride lots, traffic signal priority on U.S. 71 and Prospect, extension of local bus service along Prospect to Bannister Road and Blue Ridge, addition of 3 AM and 3 PM trips of Express Bus #471 and extension to M-150.
DMU	Alternative includes DMUs (FRA Compliant) operating on KCS (former St. Louis-San Francisco single track) rail corridor connecting to Common Line via Leeds Junction to River Market and BRT service on Prospect Avenue.
US 71 BRT	Alternative includes BRT service along I-49 mainlines or frontage roads and U.S. 71, with queue jumps on left turn lanes at 59th and 55th Streets, signal priority, and other BRT characteristics. Eight stations are at U.S. 71 and M-150, Blue Ridge Blvd, Red Bridge Road, Bannister Road, 63rd Street, 39th Street, 31st Street. BRT service on Prospect Avenue is included.

Table 2: Summary of Tier 2 Alternatives' Characteristics

	Route Miles	Number of Stations			Headways (minutes)		Travel Time	Total Vehicles in Fleet
		Walk-ups	Park and Rides	Total	Peak	Off-Peak		
Alt 1 – No Build					10 – 30 (varies by route)	30 – 60 (varies by route)		
Alt 2 – Transportation Systems Management			3	3	10 – 15 (varies by route)	30 (varies by route)		
Alt 3 – DMU								
DMU (River Market)	25.21	1	4	5	20	60	28m 20s	5
Alt 4 - U.S. 71 BRT								
U.S. 71 BRT	20.95	5	3	8	15	30/60	33.44	6

No change from existing service

NO BUILD ALTERNATIVE

The No Build Alternative is required for inclusion in the AA by the Federal Transit Administration (FTA) and serves several purposes. It helps define the problem to be solved, identifies the consequences of "doing nothing," establishes a baseline for evaluating the benefits and costs of other alternatives, and is a start for meeting National Environmental Policy Act (NEPA) evaluation requirements.

2.1.1 CAPITAL IMPROVEMENTS

The No Build Alternative includes all capital improvements identified in the fiscally constrained MARC 2040 Long Range Transportation Plan (LRTP) that will be implemented by 2035. Projects are listed at the following website: http://www.marc.org/transportation/tip/2012-2016/TIP2012-2016.pdf

2.1.2 BUS NETWORK

The No Build Alternative includes the existing bus network augmented with the recommendations listed in the KCATA *Comprehensive Service Analysis Key Corridor Network*. A summary of the bus routes in the No Build Alternative network are summarized in Table 3.

Table 3: No Build Alternative Bus Network

Routes	Programmed Headways	
	Weekday Peak	Weekday Off-peak
#471 – 71 Hwy Express	15	n/a
#71 – Prospect	10	30
#25 – Troost	30	30
#26 – Troost MAX	10	30

Routes	Programmed Headways	
	Weekday Peak	Weekday Off-peak
#28 - Blue Ridge	30	60
#28X – Blue Ridge Express	30	n/a

TRANSPORTATION SYSTEM MANAGEMENT (TSM) ALTERNATIVE

The Transportation System Management (TSM) Alternative is also required for inclusion in the AA. The alternative includes relatively low cost transit service improvements and represents the best that can be done to improve transit service short of a major capital investment in a fixed guideway. While considered to be a real alternative that could be chosen, the TSM alternative can also serve as a baseline for assessing the added benefits and costs of the more capital intensive alternatives. It can also serve as the first phase of a major investment or, in the event funding is not found for the ultimate LPA, as a fallback alternative.

The TSM Alternative includes all of the projects included in the No Build Alternative as well as additional roadway capital improvements and bus network enhancements.

2.1.3 CAPITAL IMPROVEMENTS

Roadway Capital Improvements

The TSM will include all roadway capital improvements proposed under the No Build Alternative. The TSM will also include an expansion of KC Scout Intelligent Transportation System along U.S. 71 as appropriate.

Bus Capital Improvements

The TSM will include the following transit capital improvements:

- New park and ride lots at;
    - U.S. 71 & M-150 – Expanded/Upgraded Large Park & Ride
    - Truman Corners Shopping Center – New Small Park & Ride
- New intermodal transfer point in vicinity of U.S. 71 and Bannister Road.
- Traffic Signal Priority on U.S. 71 at-grade intersections and on all Prospect signalized intersections.

2.1.4 BUS NETWORK

The TSM Alternative includes the No Build bus network, with additional changes designed to provide a comparable level of service in terms of headways and hours of operation to the more capital intensive alternatives. The TSM includes:

- Extension of local bus service along Prospect to Bannister Road and Blue Ridge.

- Extension of Express Bus service (Route #471) from current terminus Point at U.S. 71 and Red Bridge Road to U.S. 71 and M-150. The extended service would serve park and ride lots at U.S. 71 and M-150, Truman Corners Shopping Center and U.S. 71 and Red Bridge Road. Number of trips would be increased from 5 AM and 5 PM to 8 AM and 8 PM.

Changes to the bus network proposed under the TSM are summarized in Table 4.

Table 4: Changes to Existing Bus Network in the TSM Alternative

Routes	Programmed Headways		Change from No-Build Alternative
	Weekday Peak	Weekday Off-peak	
#471 – 71 Hwy Express	15	___	Extend route to U.S. 71 and M-150, and add 3 AM and 3 PM trips.
#71 - Prospect	10	30	Extend route to Bannister Road and Blue Ridge.

ALTERNATIVE 1 – DMU

The DMU alternative uses diesel style trains to connect suburban jurisdictions in the south to destinations in the CBD, to provide access to other destinations, and to provide opportunities for reverse commutes to suburban employment centers.

Diesel Multiple Units (DMUs) are rail cars that contain both passenger accommodations and propulsion (diesel engines located below the passenger compartments). As a self-propelled unit, no large locomotive engine is required. Using dual cab train set configurations, DMUs are capable of running in the reverse direction which eliminates the need for turnaround tracks. The vehicle proposed for this alternative will be a fully FRA-compliant DMU based on requirements of the Kansas City Southern Railway, the owning railroad for a portion of the alignment.

Figure 2: DMU Vehicle (Source: Denton County Transit)

The DMU alternative operates in conjunction with DMU service on the East (I-70/KCS) and Southeast (Rock Island) lines with the same common line feeding into 3rd and Grand. All calculations and analysis

related to this alternative are based on the assumption that it would only operate if the East and Southeast lines were also in operation along the proposed Rivermarket alignment.

The proposed train fleet would be comprised of FRA-compliant, single-level DMUs, approximately 85 feet long, 10 feet wide and 14 feet high. Vehicle capacity would be approximately 75 seated passengers per rail car. The vehicle will be designed with a low floor entry, fully compliant with ADA standards.

2.1.1 ALIGNMENT

Figure 3 is a map of the proposed alignment. The following description is a condensed version of the description provided in the *U.S. 71 Tier 2 Definitions of Alternatives Report* (August 2012).

The south alignment begins on former St. Louis - San Francisco Railway (SLSF) single track now owned and operated by the Kansas City Southern Railway Company (KCS) just south M-150 at-grade. A station will be located north of M-150. The alignment travels north through downtown Grandview where a station will be located between Goode Avenue and Main Street. The route then continues northeast through Grandview where it connects into the KCS Pittsburgh subdivision and crosses over U.S. 71. The alignment continues through residential neighborhoods where it crosses over 107th Street just south of I-470. A station is identified between 107th Street and I-470.

The route continues north through mostly residential neighborhoods crossing underneath I-470 and 99th Street and crossing over Bannister Road and under 93rd Street. The alignment runs along the east side of the former Bannister Mall Complex. A station is identified near Bannister Road.

The route continues along the KCS. North of 87th Street, the route travels through mostly undeveloped land although there are few residences along the corridor.

The route turns slightly west and travels in a northwesterly direction, crossing over I-435 where it begins to run through Swope Park. As it travels through the park the route crosses over Gregory Boulevard and runs adjacent to the Swope Golf Course which is directly to the west. After it passes the golf course, it crosses over 67th Street before it curves directly north and crosses over 63rd Street. North of 63rd, the land is primarily undeveloped with pockets of residential areas. The route runs underneath 58th Street and 56th Street before crossing over Blue Parkway (MO-350) and under Sni-A-Bar Road before curving slightly to the east. The route then curves back north and crosses over Winchester Avenue/Coal Mine Road before it makes a wye connection to the Rock Island right-of-way near the Leeds industrial area.

The DMU Line is single track from 155th Street to Grandview with passing tracks at the stations. The SLSF/KCS rail is planned to be rehabilitated to meet current passenger rail standards. An adjacent track will be constructed from Blue Ridge Boulevard to north of 87th Street, this will result in a double track alignment for 5.6 miles. The alignment will resume on rehabilitated single track owned by the KCS to Leeds. All highway-rail grade crossings on the alignment, including new build segments, will be modified with supplemental safety measures. Four-quadrant gates or medians will create quiet zones by FRA regulation. A program of supplemental safety measures, potentially including crossing closures, will be developed for the large number of highway-rail grade crossings through Grandview in order to meet FRA regulations for quiet zones.

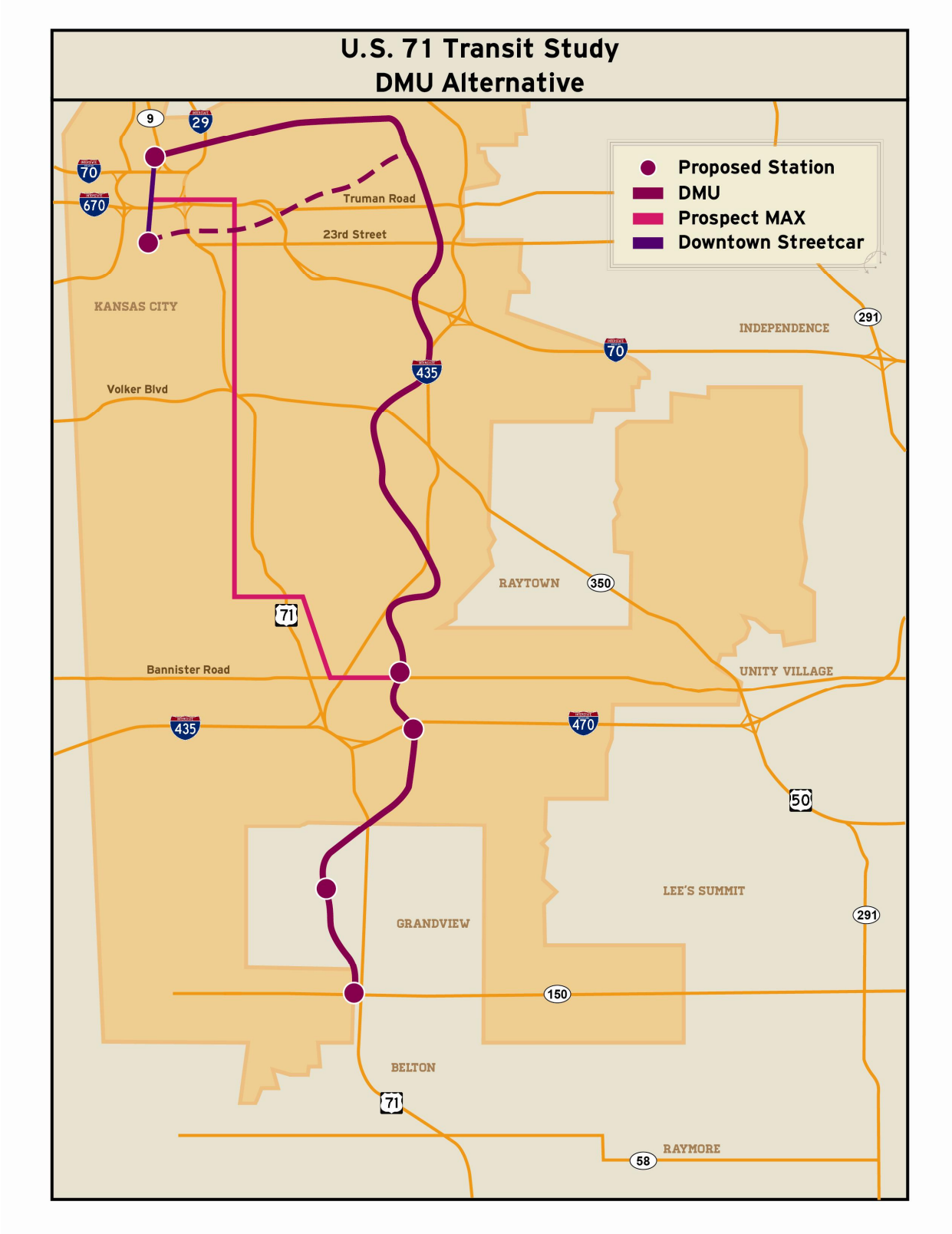

Figure 3: DMU Alternative

2.1.1 STATIONS

Stations for the DMU alternative are located near population centers and major regional destinations. The following tables list the station location, station type and areas served. Three types of stations are included in this alternative and follow the typologies assigned in the guiding assumptions

Table 5: Regional Rail Station Locations with Markets Served - South Line

South Line		
Station Location	Station Type	Markets Served
M-150	Large Park and Ride	Grandview and Cass County residents, employment and commercial
Grandview – Between Goode Avenue and Main Street	Small Park and Ride	Grandview residents, employment and commercial
Blue Ridge Blvd and East 103rd Terrace	Small Park and Ride	South Kansas City residents, nearby future development
Bannister Road	Large Park and Ride	South Kansas City residents, nearby commercial

Table 6: Regional Rail Station Locations with Markets Served – Common Line River Market

Common Segment – Leeds to River Market		
Station Location	Station Type	Markets Served
River Market – 2nd and Grand	Walk Up	Terminal station, Kansas City residents, Downtown Streetcar connection to CBD and Crown Center, River Market business and commercial

2.1.2 OPERATING ASSUMPTIONS

Basic operating assumptions are presented here for understanding of the analysis. More detailed operating and facility assumptions, such as maintenance facility location, bridge crossings, DMU fleet size, station to station speed and timing, and connecting bus network can be found in the *US 71 Tier 2 Definition of Alternatives* (January 2013).

Service Levels

Service levels for this alternative will consist of peak and off-peak operation. Service frequency on the Common Line will be more frequent because it is being serviced by trains operating on the previously studied East and Southeast lines. Table 7

Table 7: DMU Service Levels

Time of Day	DMU Headways
Morning Peak	20
Mid-day	60
Evening Peak	20
Off-Peak	60

End to End Operating Characteristics

The end to end operating characteristics are summarized Table 8.

Table 8: DMU End to End Operating Characteristics

Alternative	Route Miles	Average Speed	Travel Time
Regional Rail – River Market	25.22	56.5 mph	30m 0s
Regional Rail – Union Station	25.21	51.5 mph	36m 18s

ALTERNATIVE 2 - U.S. 71/I-49 BRT

Vehicles used for this alternative would be 40-foot transit coached capable of seating approximately 40 passengers. These buses would employ stylistic features consistent with those used on the "MAX" BRT routes currently in operation, such as shown in Error! Reference source not found.. Traffic signal priority would be employed at all signalized intersections and AVL based real-time schedule information would be provided at all park and ride and station facilities. Figure 5 maps the US 71 BRT Alternative.

2.1.3 ALIGNMENT

Figure 5 maps the alignment for the proposed US 71 BRT service. The following description is a condensed version of the description provided in the *U.S. 71 Tier 2 Definitions of Alternatives Report* (August 2012).

Northbound buses would operate from a park and ride/transit station facility located at the U.S. 71 highway/ M-150 Highway interchange. From this park and ride/station the buses would enter onto U.S. 71 via M-150 and proceed in mixed traffic to 63rd Street. At 63rd Street the buses would transition onto the inside shoulder, which would be designated as "bus only". At Truman Road the buses would

transition back into mixed-traffic to 11th Street, exit onto 11th Street and proceed west on 11th to Baltimore, north on Baltimore to 10th Street, east on 10th Street to the 10th & Main Transit Center.

Southbound buses would operate from the 10th and Main Transit Center and proceed east on 10th to U.S. 71, enter U.S. 71south in mixed-traffic and transition to the inside shoulder at Truman Road, then continue south on the inside shoulder of U.S. 71to 59th Street. From 59th to 63rd Street the buses would transition back into mixed-traffic and continue south to M-150.

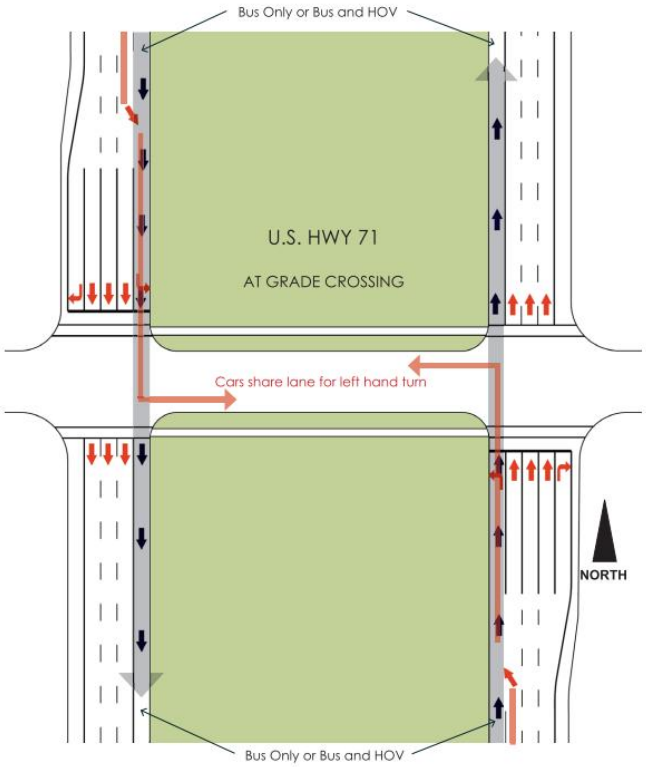

Figure 4: U.S. 71 Proposed Queue Jumps

Buses in each direction would exit U.S. 71 to serve park and ride facilities at Red Bridge Road and at Bannister Road. Northbound buses would exit onto the parallel outer road at Gregory and re-enter U.S. 71 at 63rd Street. Southbound buses would exit U.S. 71at 63rd Street and re-enter U.S. 71 at Gregory. Queue jumps, illustrated in Figure 4, would facilitate movement of the buses in both directions at 51st Street, 55th Street and 59th Street. "Freeway stations" would allow for connections to cross-town bus routes at 31st Street and 39th Street.

2.1.4 STATIONS

Stations for the U.S. 71 BRT alternative are located near population centers and major regional destinations. The following tables list the station location, station type and areas served. Three types of stations are included in this alternative and follow the typologies assigned in the guiding assumptions. Table 9 lists the proposed stations.

Table 9: U.S. 71 BRT Stations

U.S. 71 BRT		
Station Location	Station Type	Markets Served
U.S. 71 and M-150	Large Park & Ride	Grandview residents, employment and commercial
Blue Ridge Blvd	Walk Up	Grandview and Kansas City residents, employment and commercial
Red Bridge Road	Large Park & Ride	Grandview and Kansas City residents
Bannister Road	Small Park & Ride	Kansas City residents, employment and commercial
63rd Street	Walk Up	Kansas City residents, employment and commercial
39th Street	Walk Up	Kansas City residents, employment and commercial
31st Street	Walk Up	Kansas City residents, employment and commercial
10th and Main TC	Walk up	Route terminus in CBD

2.1.5 Operating Assumptions

Basic operating assumptions are presented here for understanding of the analysis. More detailed operating and facility assumptions, such as maintenance facility location, bridge crossings, DMU fleet size, station to station speed and timing, and connecting bus network can be found in the *US 71 Tier 2 Definition of Alternatives* (January 2013).

Service Levels

Service levels for this alternative will consist of peak and off-peak operation.

Table 10: U.S. 71 BRT Service Levels

Time of Day	Headways
Morning Peak	15
Mid-day	30
Evening Peak	15
Off-Peak	60

End to End Operating Characteristics

The end to end operating characteristics are summarized below.

Table 11: U.S. 71 BRT End to End Operating Characteristics

Alternative	Route Miles	Average Speed	Travel Time
U.S. 71 BRT	20.95	37.59	33.44

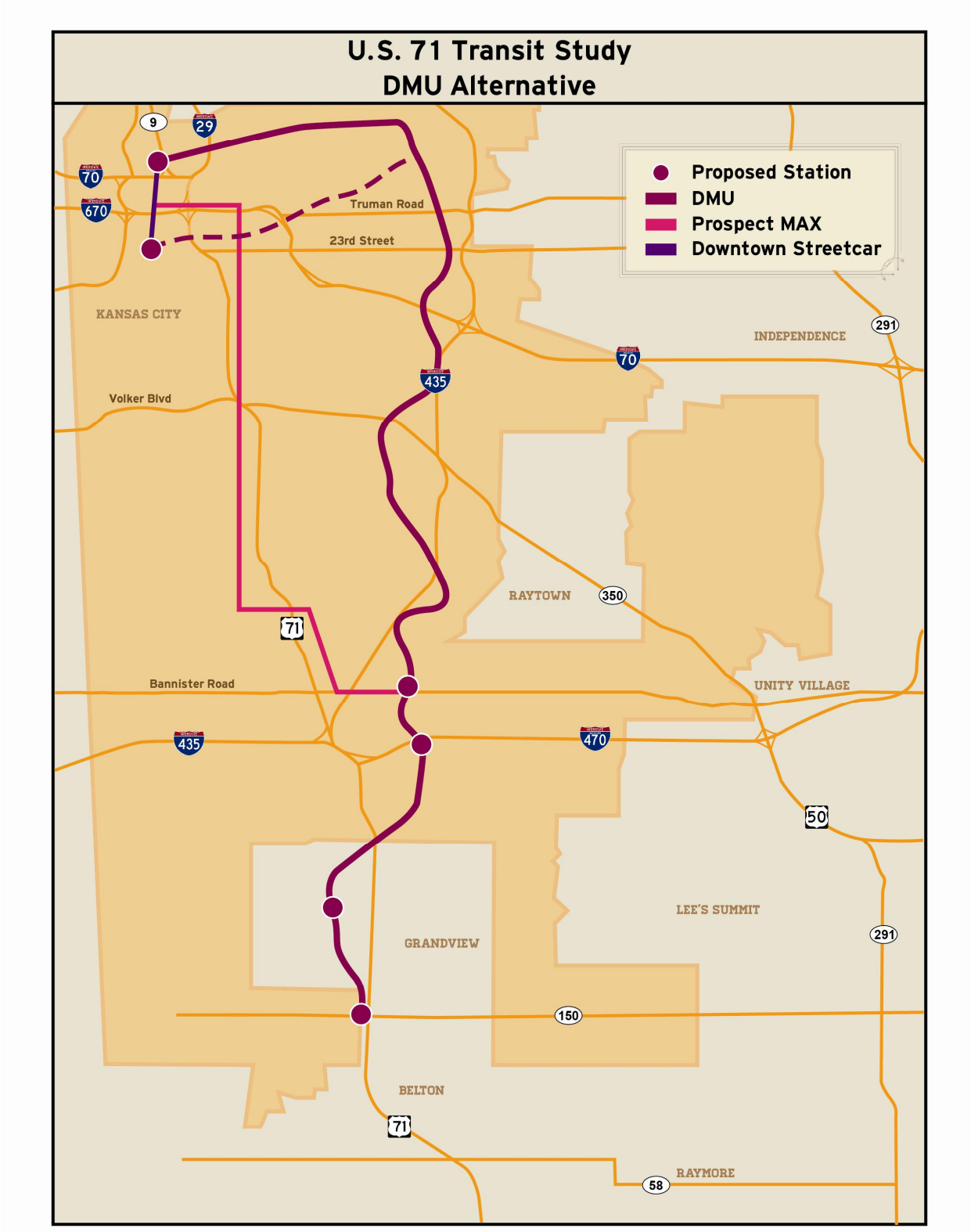

Figure 5: US 71 BRT Alternative

3 TIER 2 SCREENING METHODOLOGY AND CRITERIA

This section reviews the process and evaluation criteria for the Tier 2 Screening.

METHODOLOGY

As noted earlier in this report, the methodology for the Tier 2 Screening is documented in the *Evaluation Methodology Report* (August2012). The Tier 2 Screening will evaluate the short list of alternatives at a level of detail sufficient for local decision-makers to select an LPA. For this screening, a limited level of conceptual engineering will be performed to provide a basis for capital cost estimating, operations and maintenance costs estimating and financial analyses, among others. More detailed environmental "fatal flaw" screening and impact studies will be performed as well in accordance with the approved scope of work.

Similar to the Tier 1 Screening, a rating scale was utilized to provide a relative comparison between the No Build, TSM, and Build Alternatives. The project team will assign ratings on a scale of High, Medium-High, Medium, Medium-Low, and Low for each measure. Ratings will be presented in a summary matrix that will enable the Project Partnership Team (PPT) and local decision-makers to understand the trade-offs between the alternatives, weigh their relative advantages and disadvantages, and select the LPA.

The outcome of the Tier 2 Screening is an LPA that could be advanced for more detailed environmental and engineering studies. The performance of the Express Bus along U.S. 71 is included for comparison purposes only.

SCREENING CRITERIA

The following criteria were applied to all of the Tier 1 alternatives. The criteria are presented according to the FTA perspectives of Effectiveness, Cost-Effectiveness, Feasibility, Impacts, and Equity.

EFFECTIVENESS MEASURES

Effectiveness directly measures the extent to which the alternative combinations address the project's goals and objectives.

Table 3: Effectiveness Measures

Goals	Objectives	Tier 2 Screening Measures
Improve travel time for travelers, making it more time competitive with the automobile, and enhance the transit users' travel experience.	Improve transit travel times and speeds within study area.	End-to-end travel time
		Average transit travel speed
		Travel time between select origins and destinations
		Auto speed / transit speed comparison
		Length of alignment within fixed guideway
	Provide transit capacity needed to meet future travel demand. Provide service levels and amenities that can provide a travel experience that is competitive with the automobile.	Load factor at max load point
		Ridership output from travel demand model
	Provide amenities on the transit vehicle, at stops and park and ride lots than enhance the user experience.	Qualitative assessment of amenities
		Ridership output with wait time weight
		Travel time output with wait time weight
Connect the U.S. 71 Study area with the greater Kansas City metropolitan area via multimodal options	Provide enhanced East/West connectivity throughout the route.	Assessment of connectivity with key KCATA east/west routes
	Provide enhanced regional connectivity.	Assessment of connectivity with key KCATA / Unified Government / City of Independence / Johnson County Transit / proposed Jackson County routes
Serve and enhance the mobility of transit dependent users in the study area.	Provide enhanced East/West connectivity throughout the route to areas where transit dependent populations live and work.	Number of households within 1/2 mile of a transit station
		Number of jobs within 1/2 mile of a transit station
	Provide all-day service to areas where transit dependent populations live and work.	Days / week in service
		Hours / day in service
		Headways

Goals	Objectives	Tier 2 Screening Measures
Connect key activity centers in the study area with enhanced transit as a strategy for enticing development and redevelopment of these areas.	Provide a level and quality of transit service that can influence more compact growth patterns.	Transit travel time from each targeted activity center to downtown
	Provide station locations at or near areas identified as key activity centers.	Number of targeted activity centers served
Support neighborhood revitalization through the development of station-area nodes along the corridor	Locate station adjacent to proposed redevelopment locations	High, medium, low ranking based on the U.S. 71 Land Use Charrettes
Support local planning initiatives that call for enhanced transit for their residents.	Service should be consistent with Kansas City area plans that call for enhanced transit.	Qualitative assessment of consistency of proposed station locations with local plar and policies
Increase transportation options for study area residents and reduce dependence on automobiles.	Reduce air pollutant emissions, fuel consumption, VMT / Vehicle Hours Traveled (VHT), and travel delay.	Change in regional fuel consumption, VMT / VHT and delay per capita
		Qualitative assessment of difference in sustainability benefits of modal alternatives
Promote the protection, preservation and access to key environmental assets in the study area.	Provide access to key environmental features for visitors.	Qualitative assessment of access to lakes / trails / parks / rivers / Kansas City zoo
	Avoid negative impacts to key environmental features	Use data from environmental screening of water systems and parks
Promote workforce development in the study area through better job access and through direct jobs offered by enhanced transit.	Provide all-day service to areas where transit dependent populations live and work.	Days / week in service
		Hours / day in service
		Headways
	Provide workforce options through the implementation and operation of the transit project for those that need employment in the study area.	Number of households within 1/2 mile of a transit station
		Number of jobs within 1/2 mile of a transit station
		Estimate of direct jobs available during transit construction
		Estimate of direct jobs available when transit is in operation

COST-EFFECTIVENESS MEASURES

Cost-effectiveness assesses the extent to which the costs of the alternatives, both capital and operating, are commensurate with their anticipated benefits.

Table 4: Cost Effectiveness Measures

Evaluation Criteria	Tier 2 Screening Measures
Capital & O&M Costs	Estimated total capital cost
	Estimated annual operating cost
	Operating cost per passenger-mile
Transit Productivity	Average 2035 daily boardings per route mile
	Average 2035 daily boardings per revenue hour
Cost-Effectiveness	Cost per passenger

FEASIBILITY MEASURES

Feasibility assesses the financial and technical feasibility of the alternatives. Financial measures assess the extent to which funding for the construction and operation of each alternative is considered to be readily available. Technical feasibility assesses potential engineering challenges or restrictions that could limit the viability of an alternative.

Table 5: Feasibility Measures

	Tier 2 Screening Measures
Technical Feasibility	Further review of feasibility questions that were not addressed in Tier 1
Financial Feasibility	Cash flow assessment of availability/stability of potential funding sources to be used for funding capital and operating costs

IMPACT MEASURES

Impacts assess the extent to which the alternatives could present potential environmental and traffic issues that could be fatal flaws or otherwise influence the selection of a preferred alternative.

Table 6: Impact Measures

Evaluation Criteria	Tier 2 Screening Measures
Environmental Impacts	Potential number of displacements
	Section 4f impacts
	Wetland, stream, and floodplain impacts Visual and aesthetic impacts, including Boulevards
Traffic impacts	Change in regional VMT
	Congestion and safety impact on individual streets and highways

EQUITY MEASURES

Equity assesses the extent to which an alternative's costs and benefits are distributed fairly across different population groups.

Table 7: Equity Measures

Evaluation Criteria	Tier 2 Screening Measures
Impacts on transit-dependent and minority groups	Qualitative Analysis of adverse effects to EJ populations: air/water pollution, destruction/disruption of resources, impacts on community cohesion or economic vitality, noise/vibration, effects on property values
	Qualitative Analysis of benefits to EJ populations: decrease in travel time, improved air quality, expanded employment opportunities, better access to transit, improved service quality, increased property value
	Proportion of partial residential displacements that are in EJ census tracts
	Proportion of full residential displacements that are in EJ census tracts
	Proportion of partial nonresidential displacements that are in EJ census tracts
	Proportion of full nonresidential displacements that are in EJ census tracts

4 TIER 2 SCREENING RESULTS

The following tables present the screening results for each of the alternatives by evaluation objective (Effectiveness, Cost-Effectiveness, Feasibility, Impacts, and Equity).

Table 12: Effectiveness Output

Objective	Tier 2 Measure	Methodology	No-Build	TSM	DMU	U.S. 71 BRT
EFFECTIVENESS					DMU	U.S. 71 BRT
	Average transit travel speed	*In MPH*			58.6 mph	37.59 mph
	Travel Time – M-150 to Kansas City CBD	*In Minutes (Auto / Alternative)*	32 / 92	32 / 80	32 / 50	32 / 46
	Travel Time – Bannister Mall Site to Kansas City CBD	*In Minutes (Auto / Alternative)*	24 / 51	24 / 50	24 / 39	24 / 32
	Travel Time – Research Medical Center to Kansas City CBD	*In Minutes (Auto / Alternative)*	14 / 18	14 / 18	N/A	14 / 15
Provides transit capacity needed to meet future travel demand. Provide service levels and amenities that can provide a travel experience that is competitive with the automobile	Transit Ridership	*Daily Ridership*	U.S. 71: 190	U.S. 71: 250	500-1,000	1,200-1,900
	Max Load Point (with location)	*Peak Number of Passengers During Peak*			85 (Bannister Station)	795 (31st Street)
Provide amenities on the transit vehicle, at stops and park and ride lots that enhance the user experience	Qualitative assessment of amenities (Five point scale from 1 (low) - 5 (high) quality)		1	2	5	
Provide enhanced East/West connectivity throughout the route	Assessment of connectivity with key KCATA east/west routes (Five point scale from 1 (low) - 5 (high) connectivity)		5	5	2	4
Provide enhanced regional connectivity	Assessment of connectivity with key KCATA / Unified Government / City of Independence / Johnson County Transit / Proposed Jackson County routes (Five point scale from 1 (low) - 5 (high) connectivity)		5	5	3	4

Objective	Tier 2 Measure	Methodology	No-Build	TSM	DMU	U.S. 71 BRT
Provide enhanced East/West connectivity throughout the route to areas where transit dependent populations live and work.	Number of households within 1/2 mile of a transit station				32,189	62,382
	Number of jobs within 1/2 mile of a transit station				9742	17,496
Provide all-day service to areas where transit dependent populations live and work	Days per week in service		7	7	7	7
	Headways		10-60 min	U.S. 71: 15/no offpeak min.	20 / 60 min.	M-F: 15 / 30 Sa-Su: 60 min.
Provide a level and quality of transit service that can influence more compact growth patterns	Travel Time – M-150 to Kansas City CBD	*In Minutes (Auto / Alternative)*	32 / 92	32 / 80	32 / 50	32 / 46
	Travel Time – Bannister Mall Site to Kansas City CBD	*In Minutes (Auto / Alternative)*	24 / 51	24 / 50	24 / 39	24 / 32
	Travel Time – Research Medical Center to Kansas City CBD	*In Minutes (Auto / Alternative)*	14 / 18	14 / 18	14 / 15	14 / 15
Provide station locations at or near areas identified as key activity centers	Number of redevelopment sites served				5	6
Locate stations adjacent to proposed redevelopment locations	High, medium, low ranking based on the U.S. 71 Land Use Charrettes				High	High
Should be consistent with Kansas City area plans that call for enhanced transit	Qualitative assessment of consistency of proposed station locations with local plans and policies				5	5
Reduce air pollutant emissions, fuel consumption, VMT/VHT and travel delay	Change in regional fuel consumption			-84	-1056	-1108
	Change in VMT / VHT			-2100/100	-26400/-700	-27700/-700
	Change in delay per capita			180	-70	-10
	Qualitative assessment of difference in sustainability benefits of modal alternatives				High	High
Avoid negative impacts to key environmental features	See environmental objective					

Objective	Tier 2 Measure	Methodology	No-Build	TSM	DMU	U.S. 71 BRT
Provide all-day service to areas where transit dependent populations live and work	Days per week in service		7	7	7	7
	Headways		10-60 min	U.S. 71: 15/no offpeak min.	20 / 60 min.	M-F: 15 / 30 Sa-Su: 60 min.
Provide workforce options through the implementation and operation of the transit project for those that need employment in the study area	Number of households within 1/2 mile of a transit station				32,189	62,382
	Number of jobs within 1/2 mile of a transit station				9742	17,496
	Estimate of direct jobs available during transit construction				High	Medium
	Estimate of direct jobs available when transit is in operation				Medium	Medium

4.1.1 EFFECTIVENESS

The Effectiveness measures assess the extent to which the alternatives address the stated needs in the corridor. Suitable measures for evaluation were derived from the Purpose and Need component of this analysis. Factors contributing to this rating were summarized in the three broad categories of Transportation, Land Use and Economic Development, and Sustainability and Livability. Results for each of these categories are analyzed below.

Transportation

The needs identified for transportation include improving travel time for transit riders to make transit more time competitive with the automobile and enhancing the transit users' travel experience, connecting U.S. 71 with the regional, multimodal transportation network, and improving the mobility of transit dependent users in the study area.

4.1.1.1 Time Competitiveness and Travel Experience

The Tier 2 Screening Results matrix provides a comparison of end to end scheduled travel time, average transit travel speed, and travel times between key locations along the corridor and the Kansas City, Missouri CBD. Table 1 provides a comparison of end to end scheduled travel time and the average speed of each mode.

Table 13: Travel Time and Speed

Alternatives	End to End Scheduled Travel Time	Average Guideway Travel Speed
Alternatives	*In minutes*	*In miles per hour*
No Build	n/a	n/a
TSM	n/a	n/a
DMU	28m 20s	58.6 mph
U.S. 71 BRT	33m 27s	37.6 mph

The speeds by mode are only one of the items that determines the actual travel times. As shown in Table 14, the travel times for the DMU and U.S. 71 are fairly similar. This is because of the DMU alternative has more out of vehicle time than the BRT alternative. Out of vehicle time is that time spent transferring to another mode or walking to a final destination. The current assumption for the U.S. 71 BRT is would operate on city streets once in the CBD, therefore operating as its own distribution system. The closest station to the CBD for the DMU is 2nd and Grand, which requires a substantial walk or streetcar/bus transfer to get to the CBD.

The U.S. 71 alignment along existing roadways provides the most direct routes to the Kansas City CBD, however the speed of the vehicles is comparatively slower than the DMU alternatives. The DMU alternatives would generate the greatest improvement in end-to-end travel times because the portion

of the alignment within the rail corridor can accommodate average operating speeds upwards of 50 miles per hour. Average speeds on the U.S. 71 BRT alignment would be limited by posted speed limits, and traffic signals, however, the improvement of travel time from the U.S. 71 BRT alternative is competitive with the DMU option when out of vehicle time is included.

Another key consideration is the travel time between key destinations and downtown for each of the given alternatives. Table 14 shows the relative travel time for both automobiles and transit vehicles operating under the alternative scenarios.

Table 14: Travel Time Between Selected Origins and Destinations

Travel Time Between Selected Origins and Downtown Kansas City, Missouri (in minutes)						
	M-150 to Kansas City CBD		*Bannister Mall to Kansas City CBD*		*Research Medical Center to Kansas City CBD*	
Alternatives	Auto	Alternative	Auto	Alternative	Auto	Alternative
No Build	32	92	24	51	14	18
TSM	32	80	24	50	14	18
DMU	32	50	24	39	14	N/A
U.S. 71 BRT	32	46	24	32	14	15

In order to meet the transportation needs of the U.S. 71 corridor the chosen alternative must provide transit capacity needed to meet future demand. Table 15 shows the projected daily transit ridership statistics for those alternatives that were analyzed in the travel demand model.

Table 15: Ridership Data

Measure	Transit Ridership	Peak Number of Passengers during peak	Max Load Location
Alternatives			
No Build (U.S. 71)	190		
TSM (U.S. 71)	250		
DMU	500-1,000	85	Bannister
U.S. 71 BRT	1,200-1,900	795	31st Street

The daily transit ridership shows that the U.S. 71 BRT has a far greater number of riders than the DMU alternative. The model also shows that many trips would be diverted off of the Prospect line and onto the U.S. 71 line creating a complementary service, rather than one underperforming and one

overwhelmed route found currently. An understanding of where each alternative is likely to experience a higher level of activity can assist with right-sizing service. The peak passenger and max load location provides that information. For U.S. 71 BRT, the peak load is expected at 31st Street, while the DMU alternative is likely to generate peak ridership at the Bannister Station.

Alignments that are adjacent to population and employment centers allow for the greatest impact in meeting future transit needs. The BRT alignments provide the most direct access to current and future centers of population and employment, while the DMU alternatives are comparatively poor in meeting transit demand in the central portion of the corridor. The DMU alignments travel too far to the east to provide access to population and employment centers. Future demand is expected to increase most substantially in this central portion of the corridor.

Another element of competitiveness is providing service levels and amenities that can provide a travel experience comparable to the personal automobile. This assessment analyzed the provision of amenities on transit vehicles, and at stops and park and ride lots that enhance the users' experience. The qualitative assessment of amenities available with each mode found DMU provide the highest level of amenities and quality of travel experience.

4.1.1.2 Regional Transit Connectivity

Transit connections made between each alternative in the U.S. 71 study area and the existing network in the Kansas City metropolitan area is another point of consideration. A qualitative assessment of connectivity with the local network of KCATA east/west routes found that the U.S. 71 BRT alternative provided the best access to KCATA transit routes; specifically routes 25 (Troost), 31 (31st Street), 71 (Prospect), 39 (39th Street) and 163 (63rd Street). Given the location of the DMU alignments, few connections can be made with the existing KCATA area of service. The DMU provides access to routes 25 (Troost) and 28 (Blue Ridge).

In terms of regional connectivity, the screening assessment took into account a broader spectrum of existing transit routes in the metropolitan area. The analysis found U.S. 71 BRT alternative connects well with regional bus transit routes, mostly due to its terminus in downtown Kansas City. The DMU alternative has limited accessibility to regional bus routes, but direct connectivity with potential DMU routes on the I-70 and Rock Island corridors, should they be implemented.

4.1.1.3 Mobility for Transit Dependent Populations

The Tier 2 Screening Results matrix includes assessment of each alternative's service to areas where transit dependent populations live and work, and east/west connectivity to areas where transit dependent populations live and work.

Table 16: Alternative's Proximity to Jobs and Households

Measure	Number of Households with ½ mile of Transit Station	Number of Jobs within ½ mile of Transit Station
Alternatives		
DMU	32,189	9,742
U.S. 71 BRT	62,382	80,683

Serve and enhance the mobility of transit dependent users in the study area. The criteria to evaluate connectivity to transit dependent populations included an analysis of the number of households and jobs within a ½ mile of transit stations and the corridor alignment. In all cases, the U.S. 71 BRT had higher numbers of households and jobs in proximity to transit stations. The DMU alternative had fewer than half of the households and fewer than 15% of the jobs.

The screening also assessed each alternative's provision of all-day service to areas where transit dependent populations live and work. This assessment relied on a comprehensive review of the proposed service strategy for each modal alternative. The BRT alternatives were found to be best in providing all day service to transit dependent areas, while the DMU alternative provided less service. The service strategies for the BRT alternatives included 30 minute off-peak service, while the rail options showed hourly off-peak service.

Economic Development and Land Use

4.1.1.4 Connect Key Activity Centers

To identify potential economic and land use benefits at station areas, the Project Partnership Team held land use charrettes and included municipal staff from Kansas City and Grandview. At these charrettes, each station was analyzed for both opportunities and constraints. After the charrettes, the study team analyzed the potential benefits for each location and provided a score. What the study team found was that both the DMU and the U.S. 71 BRT alternative provided opportunity for economic development so long as the following we applied to either alternative:

- The level of capital investment in the alternative was substantial and could be considered as "permanent" by investors in adjacent development.
- Local land use policies and development codes encourage development that optimizes the economic benefit of enhanced transit. For example, more economic development opportunity is available when the proximity to transit is leveraged through transit oriented development (TOD) instead of strip retail.

4.1.1.5 Support Local Planning Initiatives

Each alternative was evaluated for consistency of proposed station locations with local plans and policies that call for enhanced transit. Numerous plans within the study area call for enhanced transit, both for short trips and for regional/commuter trips. Each of the alternatives is in keeping with the spirit of plans associated with their area.

Sustainability and Livability

Each alternative was assessed for their potential to reduce regional fuel consumption, as well as reduce VMT, VHT and travel delay. The U.S. 71 BRT alternative was marginally better at positively impacting VMT, while the DMU alternative was marginally better at positively impacting regional fuel consumption and regional delay. Both build alternatives performed much better than the TSM alternative.

Each alternative was evaluated for the level of service provided to areas where transit dependent populations live and work. The BRT alternatives were rated as good in meeting the transportation needs of transit dependent populations for their proximity to low-income households and service strategy that provides more regular off-peak service. The DMU alternatives were found to insufficiently service low-income areas, and off-peak service times limit accessibility for users. Workforce development as part of the implementation of the service was also evaluated. Fixed rail systems offer the most construction-related jobs, while all mode, so long as the service level is consistent, offer comparative jobs during transit operation

4.1.1 COST-EFFECTIVENESS

As indicated in the Tier 1 screening, the BRT Alternatives offer superior cost effectiveness compared to the DMU in the U.S. 71 corridor. Comparing the DMU and US 71 BRT, the US 71 BRT indicates it has higher potential for being cost effective for the service it provides.

Table 17: Cost Effectiveness

Objective	Tier 2 Measure	No-Build	TSM	DMU	U.S 71 BRT
COST EFFECTIVENESS					
Capital and O&M Costs	Estimated Capital Cost			$81,180,980	$54,000,000-$72,482,000
	Estimated Annual Operating Cost		$2,517,003	$6,961,180 (peak hour only) - $11,430,040 (all day service)	$2,785,048
	Operating cost per annual rider			$141.47	$5.64
Transit Productivity	Average 2035 daily boardings per route mile			10	90.7
	Average 2035 daily boardings per revenue hour			6.6	13.9
Cost-Effectiveness	Annualized cost per passenger			$31.22	$10.67

Capital and O&M Costs

The DMU alternative has a higher capital cost than the other alternatives. The BRT projects offer capital and O&M costs within similar ranges to each other. As part of the Tier 2 analysis, the Project Team considered right-sizing the U.S. 71 BRT alternative to reduce the capital cost. Proposed stations were changed from median stations to less costly off-ramp stations. This produced a cost savings of $19 million for the project, making the U.S. 71 BRT alternative even more affordable than the DMU alternative. Operating and Maintenance costs were also adjusted to consider peak-hour only operation of the DMU service. This service plan change saved more than $4 million from the O&M cost of the DMU. However, the DMU alternative remains the most costly for both capital and O&M cost.

Transit productivity

Transit productivity measures indicate that the U.S. 71 BRT alternative is the most attractive. The productivity of both routes is high independently and when considered together, the transit productivity is rated very high.

Cost effectiveness

The U.S. 71 BRT and Prospect BRT alternative is the most cost effective, with an annualized cost per passenger of $10.67 for the U.S. 71 BRT. The DMU has the highest cost per passenger with $31.22 per passenger. This cost is high because there are relatively few passengers captured by the proposed DMU alignment.

4.1.2 FEASIBILITY

Alternatives rated most favorably under feasibility presented few substantial constructability issues and regulatory and other types of barriers and had capital costs that could potentially be funded within the estimated financing capacity of the project sponsor(s). The BRT alternatives were assigned the best ratings for feasibility, while the DMU option received low and medium ratings. A discussion of the ratings for each criterion is below.

Table 18: Feasibility

Objective	Tier 2 Measure	DMU	U.S. 71 BRT
FEASIBILITY MEASURES			
Technical Feasibility	Qualitative assessment of constructability, willingness of the railroads to share right of way, etc.	Medium	High
Financial Feasibility	Cash flow assessment of availability/stability of potential funding sources to be used for funding capital and operating costs	Low	High

Technical Feasibility

The U.S. 71 BRT alternative is technically feasible as the vehicle technology has the flexibility to operate in mixed traffic or use dedicated guideways. For the proposed alignments, MoDOT and the City own

most of the right-of-way and are participating in this project. The DMU alignment is technically feasible given that the Kansas City Southern is interested in a partnership to allow for construction of commuter rail in the corridor. The rail corridor has the availability to accommodate DMUs on existing track, but also has sufficient right-of-way to construct new tracks. However, the need to negotiate operating agreements with private railroad companies to gain trackage rights and operating guarantees and liability indemnification agreements could severely limit the technical feasibility of the alternative, reducing its overall rating depending upon the cost of these agreements.

Financial Feasibility

As part of this study, local funding sources are being analyzed for their ability to finance this project. However, the costs of the LPA should be minimized to keep within the final amount of funding that could be dedicated to the project. The U.S. 71 BRT alternative received the best ratings given the relatively low-cost of vehicle technology and infrastructure. The DMU alternative has a low financial feasibility, in part because of the high cost per rider, as discussed in the Cost-effectiveness analysis

4.1.1 IMPACTS

The environmental and traffic impacts of the alternatives are mitigatable. With clearly identified alternatives, the impacts can be demarked for each specific alternative. The DMU alternative has the most impacts including park impacts, partial and full nonresidential displacements, potential floodplain impacts, and traffic impacts. The BRT alternatives have fewer impacts that affect existing human and environmental resources.

Table 19: Environmental and Traffic Impacts

Objective	Tier 2 Measure	No-Build	TSM	DMU	U.S. 71 BRT
IMPACT MEASURES					
Environmental Impacts	Number of parks directly impacted			1	0
	Parks within 250 feet (acres)			194.12	38.96
	Parks within 250 feet (#)			7	7
	Length of Streams within 250 feet (feet)			3,784	10,753
	Stream direct crossing (#)			5	6
	Wetlands within 250 feet (acres)			16.82	3.37
	Open waters within 250 feet (acres)			3.42	0
	Floodplain within 250 feet (acres)			278.98	99.25
	Historic districts within 250 feet (#)			0	1
	Historic sites within 250 feet (#)			1	8
	Potential number of partial/full residential displacements			0/0	0/0
	Potential number of partial/full nonresidential displacements			17/8	0
Traffic Impacts	Change in regional VMT		-2,100/100	-26,400/-700	-27,700/-700
	Congestion and safety impact on individual streets and highways (high = positive)			High	Medium

Environmental Impacts

The DMU alternative has several environmental impacts, but most of these impacts are along the common line portion of the alignment that is shared with the Jackson County Commuter Corridors projects. The impacts along the common line relate to the proximity of Kessler Park as the alignment passes through parkland and adjacent to part of the park. There are wetland, water way and stream impacts, again, along the common line, but they can be mitigated or are not of significant impact to require mitigation. The nonresidential displacements, both full and partial, are impacts to rail-related industrial buildings and are considered low impact. The U.S. 71 BRT alternative has minor impacts to wetlands and floodplains. There are historical buildings impacted by the BRT alternatives as they pass through some historic areas approaching the downtown area.

Traffic Impacts

The DMU alternative is evaluated to have the lowest traffic impact as it is separated from the roadway network. Where there are at grade rail crossings, the impact to traffic is not substantial. The U.S. 71 BRT alternative will all require some degree of construction and will therefore impact traffic during construction. Traffic impacts to U.S. 71 during construction would include some work for pavement reconstruction, signage and pavement markings in the inner median. There are no known business-access concerns during construction on the U.S. 71 alignment due to the use of the inner median. Analysis on the queue jump locations of the U.S. 71 BRT show that vehicular level of service will not be impacted. This is due to the fact that the buses will use the existing left turn signal phase. Further analysis is needed on impacts to pedestrian crossings at the queue jump locations. Mitigation of this issue may require a leading pedestrian signal phase, which could have some impact on vehicular traffic movement.

4.1.2 EQUITY

U.S. 71 BRT alternative were rated most favorably of all the alternatives for equity, indicating that these options would likely present the fairest distribution of costs and benefits among different population groups. The negative impacts of all alternatives are equally minimal to environmental justice populations. However, the benefits to environmental justice populations are distinctively better for the U.S. 71 alternatives. The proposed alignment of BRT services better serves the EJ communities in the corridor, providing improved access to jobs and the potential for redevelopment along the alignment. The DMU alignment, which follows existing rail lines, does not provide direct service to many of the EJ populations in the corridor, consequently, the DMU alternative is rated the lowest for equity measures.

Table 20: Equity Measures

Objective	Tier 2 Measure	No-Build	TSM	DMU	U.S. 71 BRT
EQUITY MEASURES					
Impacts on transit-dependent and minority groups	Qualitative Analysis of adverse effects to EJ populations: air/water pollution, destruction/disruption of resources, impacts on community cohesion or economic vitality, noise/vibration, effects on property values (Five point scale from 1 (low) - 5 (high) impact)			1	1
	Qualitative Analysis of benefits to EJ populations: decrease in travel time, improved air quality, expanded employment opportunities, better access to transit, improved service quality, increased property values (Five point scale from 1 (low) - 5 (high) benefit)			2	4
	Proportion of partial residential displacements that are in EJ census tracts			0	0
	Proportion of full residential displacements that are in EJ census tracts			0	0
	Proportion of partial nonresidential displacements that are in EJ census tracts			15 / 17	0
	Proportion of full nonresidential displacements that are in EJ census tracts			8 / 8	0

5 LOCALLY PREFERRED ALTERNATIVE

The Locally Preferred Alternative: *A long-term vision for rail and supporting bus services in the corridor advanced through a phased approach to implementation.*

In evaluating the potential alternatives, it was determined that the appropriate LPA must serve both urban and suburban users and that a phased approach to transit development in the corridor was essential to serving both markets. While rail is the long-term goal for transit enhancement in the corridor, shorter term strategies were identified to prime the area for enhanced transit.

Near Term Strategies

- Advance Prospect MAX: The Prospect corridor is currently being studied for infrastructure enhancements similar to those along the Troost MAX line.
- Expand and enhance existing express bus service along U.S. 71, leading to express BRT on U.S. 71.
- Continue negotiations with host railroads to facilitate the implementation of near-term Commuter DMU service
- Develop funding solutions for expanded corridor transit services

Long-Term Strategies

- Expand and enhance Commuter DMU operations
- Identify and advance a fixed-guideway rail alternative within the U.S. 71/Bruce R. Watkins corridor.

Next Steps

- Advance design and federal funding request for Prospect BRT
- Advance environmental and design studies for near-term express bus and rail solutions, contingent upon local authorization and funding
- Develop plan for a local funding mechanism to support program implementation.