



Regional Working Group Meeting 3

WELCOME & SAFETY BRIEFING

FRA OPENING REMARKS

INTRODUCTIONS

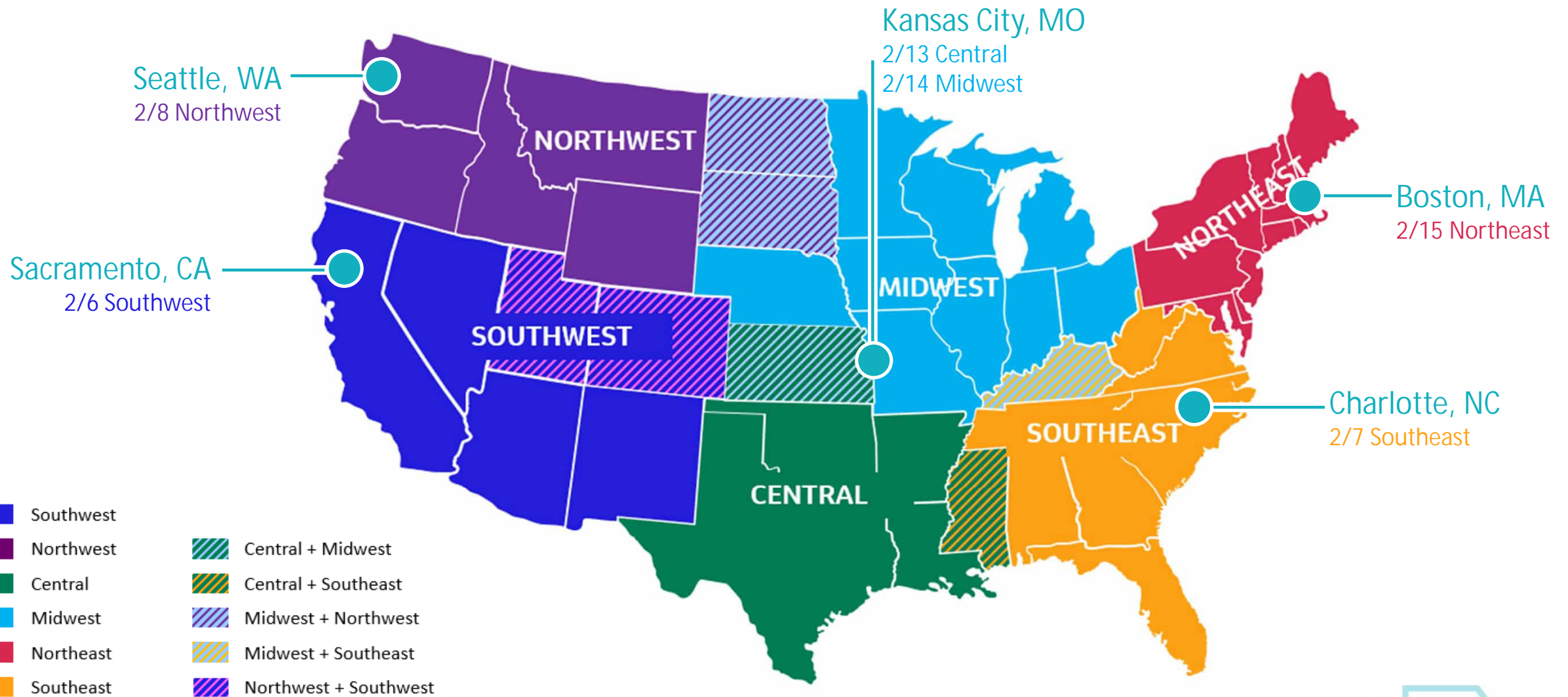
Agenda

- Welcome and Introductions
- Study Overview and What We've Heard
- Route Development and Evaluation Methodology
- Identification of Routes
- Approach for Development of Route Service
- Development of Capital and Operations and Maintenance Cost Estimates
- Implementation Timeframe Feedback
- Ongoing Long-Distance Collaboration and Planning
- Closing and Next Steps

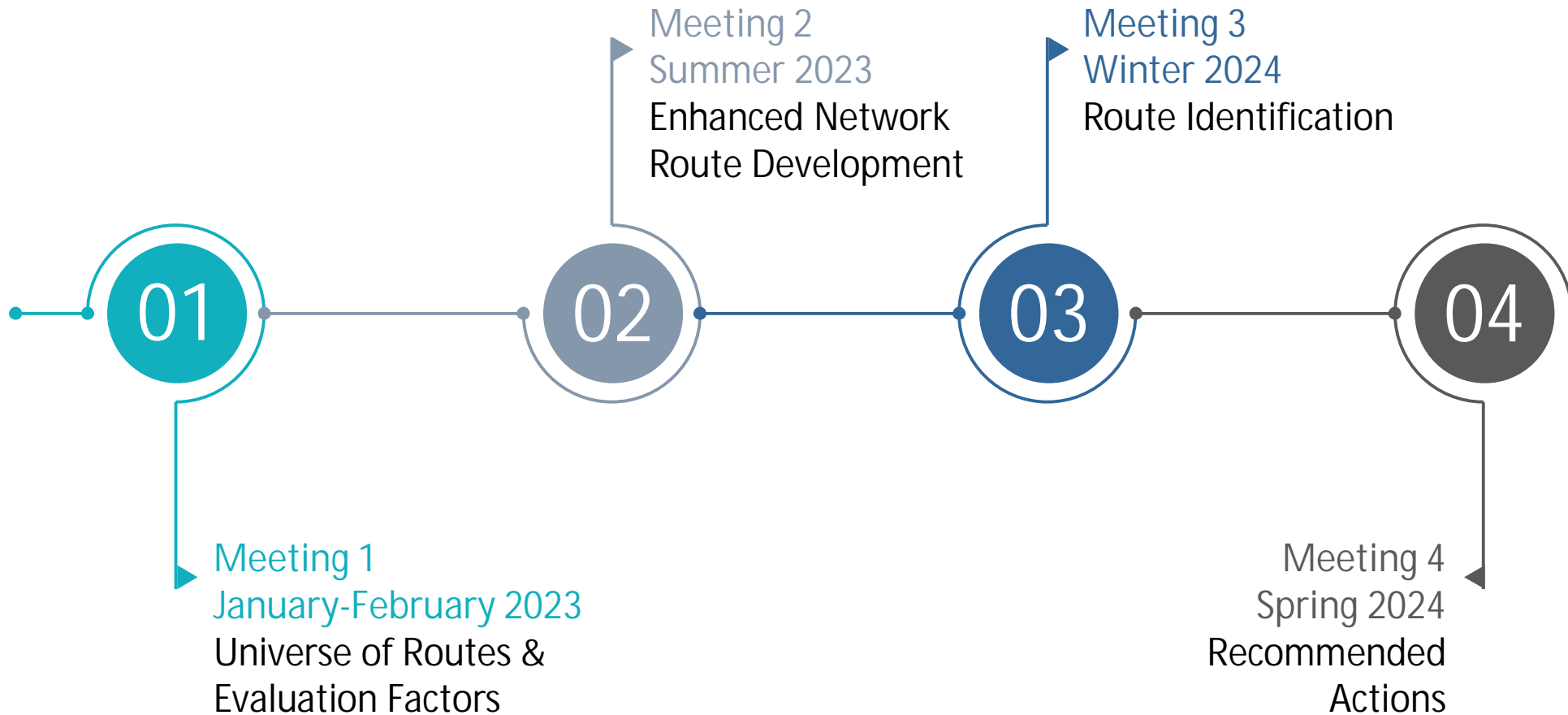
Meeting Objectives

- Brief stakeholders on the study progress
- Inform stakeholders on the methodologies for developing routes, route schedules, and cost estimates
- Review the preferred routes and get feedback
- Receive input from stakeholders on:
 - Prioritization concepts for implementation timeframes
 - Ongoing collaboration and planning

Long-Distance Service Study Regions: Stakeholder Group Meetings



Long-Distance Service Study Engagement Schedule



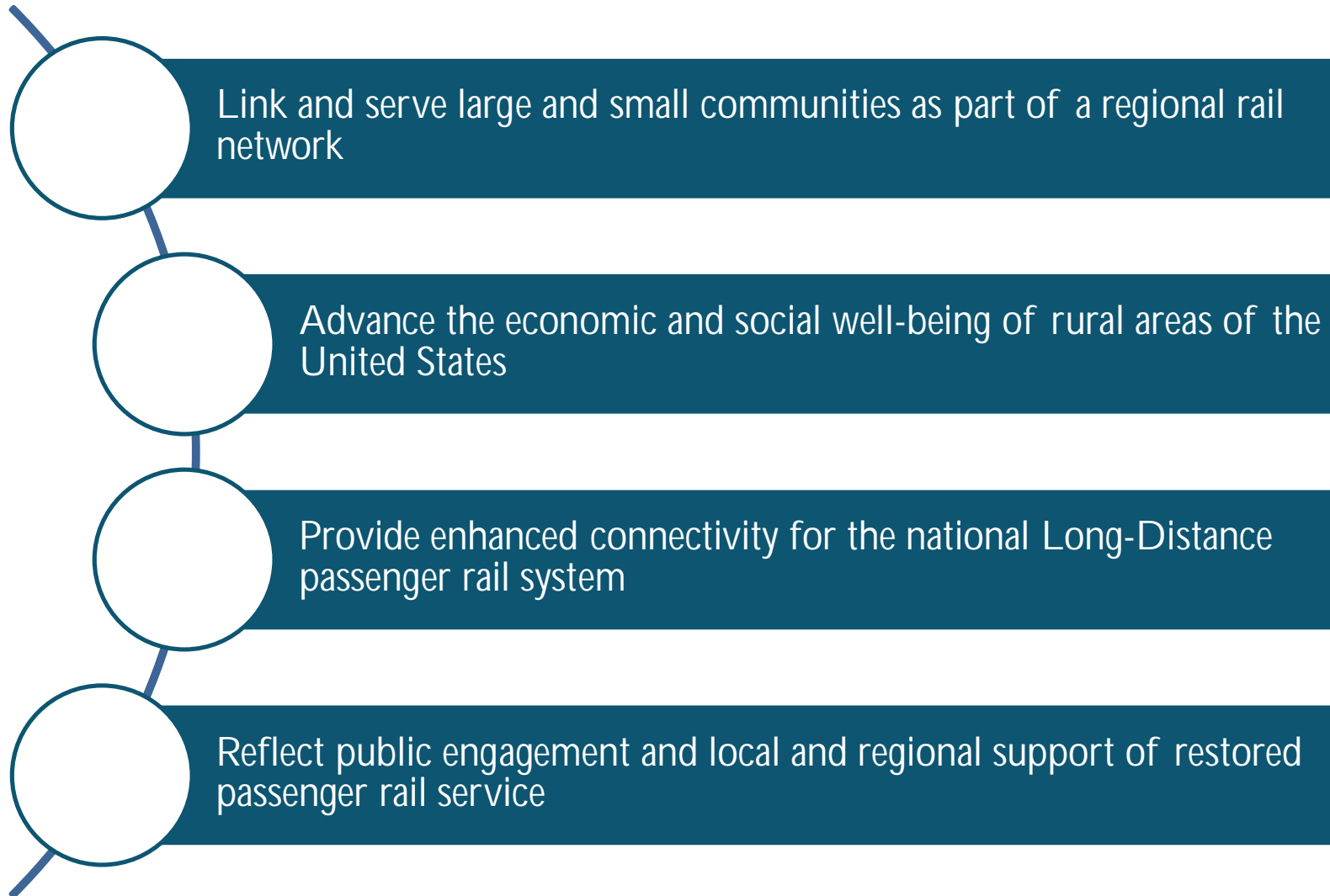
STUDY OVERVIEW

About the FRA Long-Distance Service Study

The Infrastructure Investment and Jobs Act (IIJA) of 2021 requires the FRA to conduct a study to evaluate the restoration of daily intercity rail passenger service along —

- any Amtrak Long-Distance routes that were discontinued; and
- any Amtrak Long-Distance routes that occur on a nondaily basis.
- FRA may also evaluate potential new Amtrak Long-Distance routes, including with specific attention provided to routes in service as of April 1971 but not continued by Amtrak.

Legislative Considerations for Long-Distance Service Expansion



FRA Long-Distance Service Study – Report to Congress

Preferred options for restoring or enhancing Long-Distance service

Prioritized inventory of capital projects to restore or enhance service

Federal and non-Federal funding sources

Estimated costs and public benefits of restoring or enhancing intercity rail passenger transportation in the region impacted for each relevant Amtrak route

FRA Long-Distance Service Study – FRA’s Preliminary Vision

Common long-term vision for Long-Distance passenger rail service, and capital projects needed to implement that vision, based on existing conditions, future travel demand, and the role of Long-Distance services in the linking communities across the country.

Potential institutional arrangements, financial requirements, and planning and development activities needed to implement the vision.

Strategies for Amtrak and other key stakeholders for implementation and coordination in development of Long-Distance routes, including potential opportunities and efficiencies in Amtrak’s management and implementation of Long-Distance services.

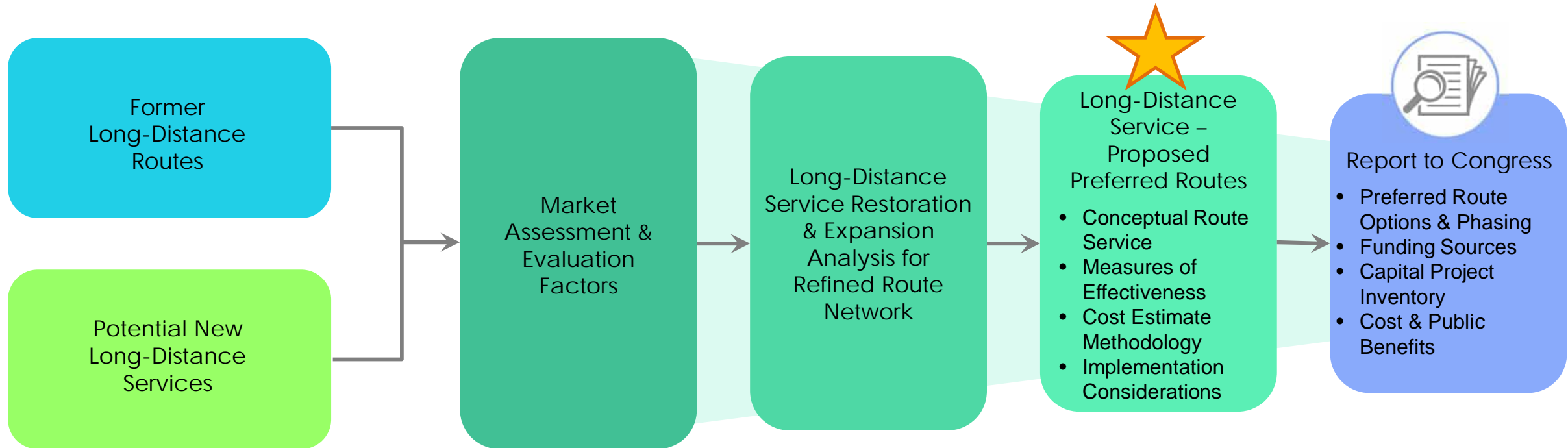
Overview of Long-Distance Service Study Scope

- Plan and execute agency, stakeholder and public engagement
- Review previous Long-Distance services
- Assess current Long-Distance services and travel market
- Develop study methods and tools
- Develop restoration and expansion concepts
- Identify preferred options and prioritization
- Develop costs, benefits, and financing information
- Identify final recommendations and implementation strategies
- Issue final report

Long-Distance Service Study Approach

Amtrak Non-Daily
(Cardinal & Sunset
Limited) Routes

- Evaluate existing conditions & requirements to restore to daily service
- Consider & recommend daily service restoration plan



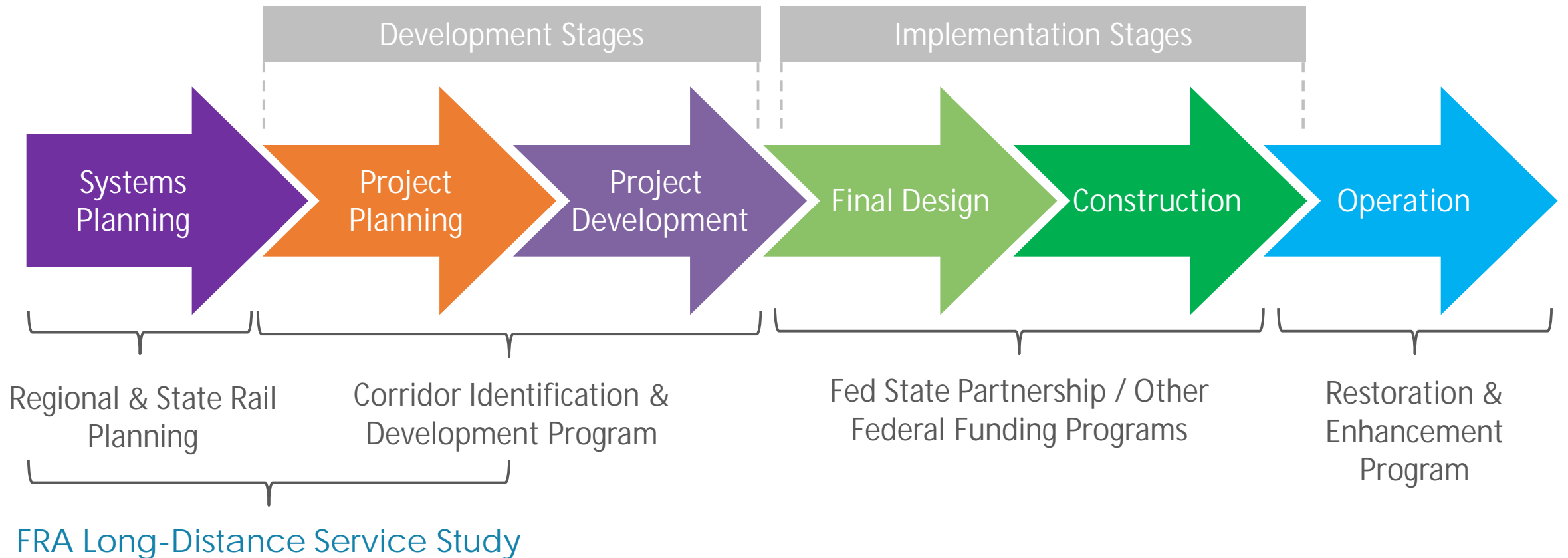
Long-Distance Service Study Expectations

<u>What this Study IS</u>	<u>What this Study IS NOT</u>
Focused on Long-Distance Network	A “National Rail Plan”
Assessment of routes over 750 miles	Assessment of State-Supported routes
Focused on Amtrak as service provider	Identifying other service providers
Service frequencies to meet Long-Distance markets	High frequency service
Utilization of existing rail corridors	Identifying new “greenfield” alignments
Conventional rail/technology	High-speed or other emerging technologies

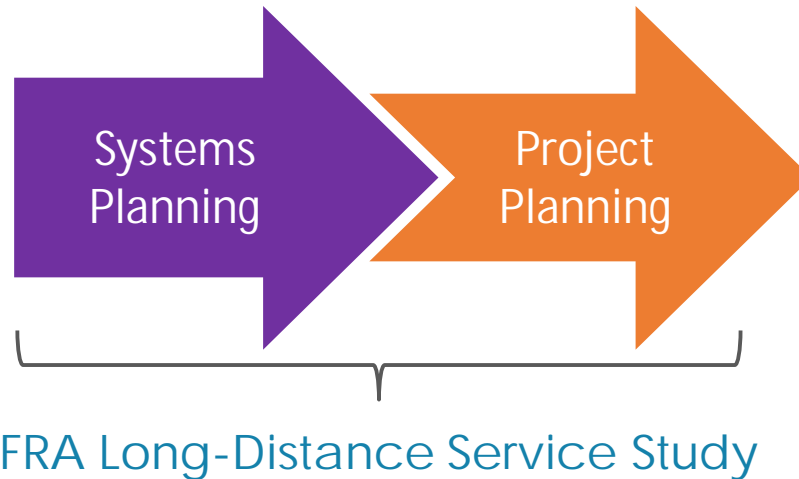
Long-Distance Service Study Technical Outputs

- Develop robust market demand and operations and maintenance (O&M) costs that emphasize the benefits and costs of both the existing and an expanded long-distance network
 - Includes developing demand, revenue, and O&M cost estimates for specific routes under consideration
- Identify passenger-service specific projects
 - Examples: stations, rolling stock, track upgrades
 - Projects will be included as part of "prioritized inventory" mandated by the legislation
 - Decision to focus on identifying these types of projects was based on feedback from host railroads during initial LDSS outreach

Long-Distance Service Study in the FRA Project Lifecycle Stages



Long-Distance Service Study in the FRA Project Lifecycle Stages



Key Systems and Project Planning Tasks Undertaken

- Examines broad needs, challenges, and opportunities
- Considers links with other transportation modes for safe, seamless, integrated transportation to carry travelers from origin to destination within and between megaregions
- Identify passenger-service specific projects, including their respective costs and benefits

Key Project Planning Tasks

Subject to Additional Analysis After This Study

- Route, service, and passenger-specific project recommendations are subject to further development and refinement under subsequent detailed project planning and project development efforts
- Identify potential capacity related improvements and operational issues associated with the proposed routes
- Develop conceptual engineering concepts with consideration of environmental factors

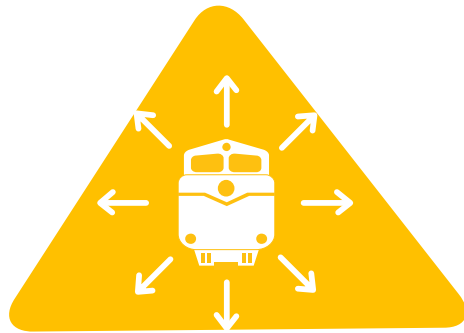
Corridor Identification and Development Program Overview

Build the foundation for a long-term rail program



Corridor ID creates a foundational framework for identifying and developing new or improved intercity passenger rail (IPR) services. Under the program, FRA will:

Bring world-class passenger rail service to regions across the country



Solicit proposal for implementing new or improving existing IPR services

Select corridors for development

Partner with corridor sponsor to prepare (or update) a Service Development Plan (SDP)

Grow a safer, cleaner, more equitable rail system



SDP includes a "corridor project inventory"

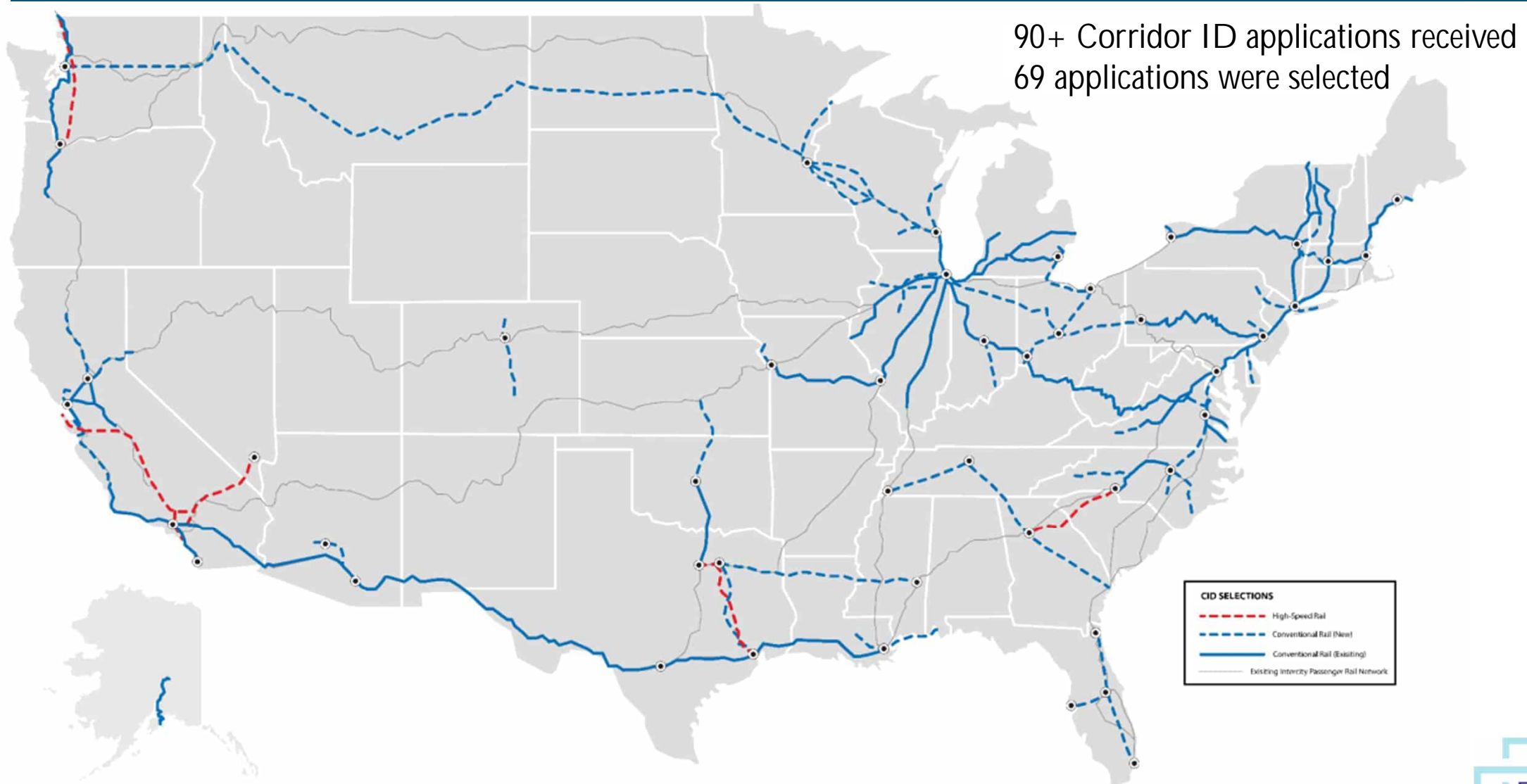
Corridor project inventories populate a prioritized "pipeline" of projects

Projects in the Corridor ID Pipeline are eligible for funding under FRA's financial assistance programs

Corridor Identification and Development Program Overview

- Eligibility includes both short-distance (less than 750 miles) services, along with increasing the frequency of long-distance service, and restoring service over any route formerly operated by Amtrak
- The first selections of the Corridor ID Program were announced in December 2023. Long-distance service corridors selected into Step 1 of the program include:
 - Daily Cardinal Service (Amtrak)
 - Daily Sunset Limited Service (Amtrak)
 - North Coast Hiawatha (Big Sky Passenger Rail Authority)
- Step 1 of the program requires sponsors to develop a scope, schedule, and cost estimate for preparing, completing, or documenting its service development plan.

FY 22 Corridor ID Selections



WHAT WE HEARD

Route Development Feedback Received at Meeting Series 2

- During interactive sessions, attendees used a map of the Enhanced Network to identify potential routes, including termini and intermediate stations. Common themes included:
 - Hubs at Kansas City, Denver, Dallas, Atlanta, St. Louis, Charlotte, Memphis, Nashville, Tulsa, Seattle, Los Angeles, Boise, Las Vegas, Salt Lake City, and Indianapolis
 - Support for greater accessibility to military bases and national parks
 - Consideration for restoration of segments of discontinued routes
 - Support for new segments connecting places in the network, like Rapid City, Baton Rouge, and Chattanooga and Roanoke via Knoxville.



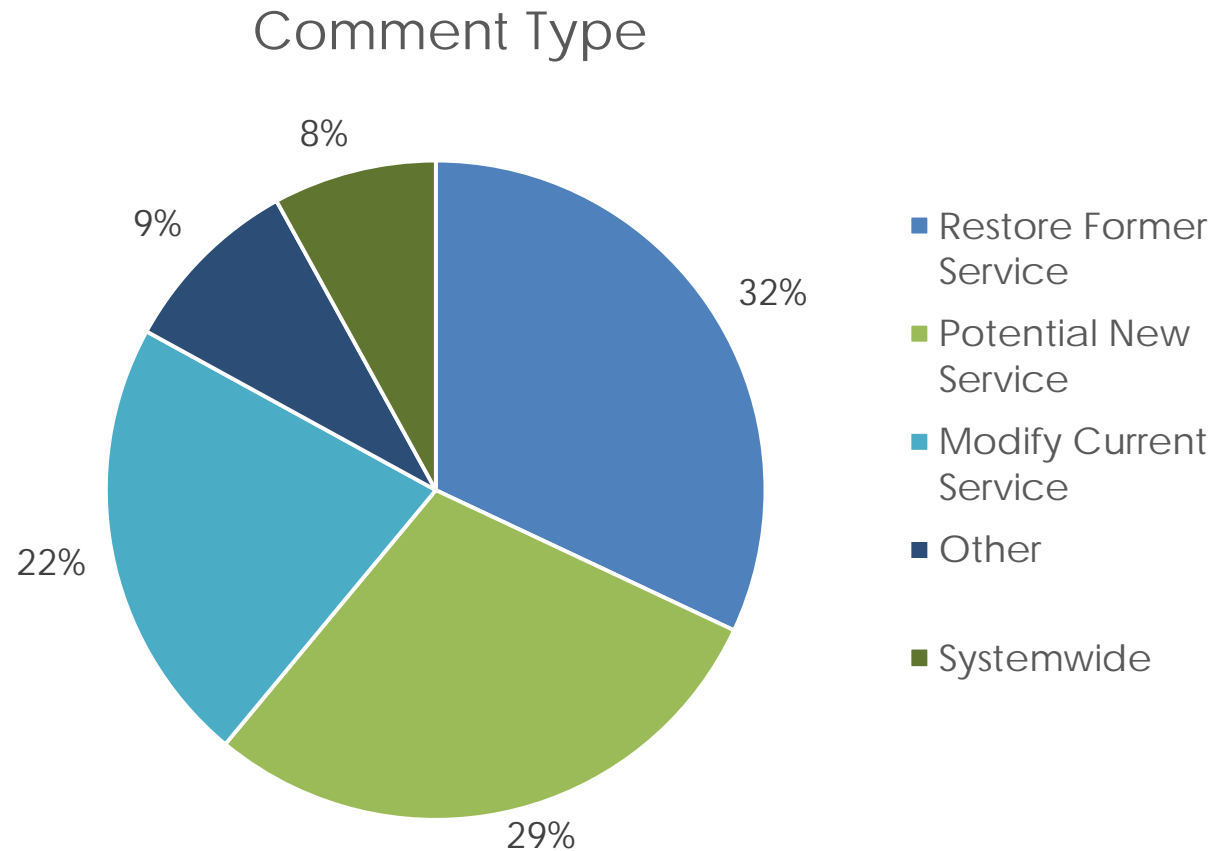
Conceptual Enhanced Network presented at Meeting Series 2, July 2023. Not an FRA proposal for service. Segments are conceptual building blocks for consideration in developing potential new long-distance routes.

Governance Feedback from Meeting Series 2

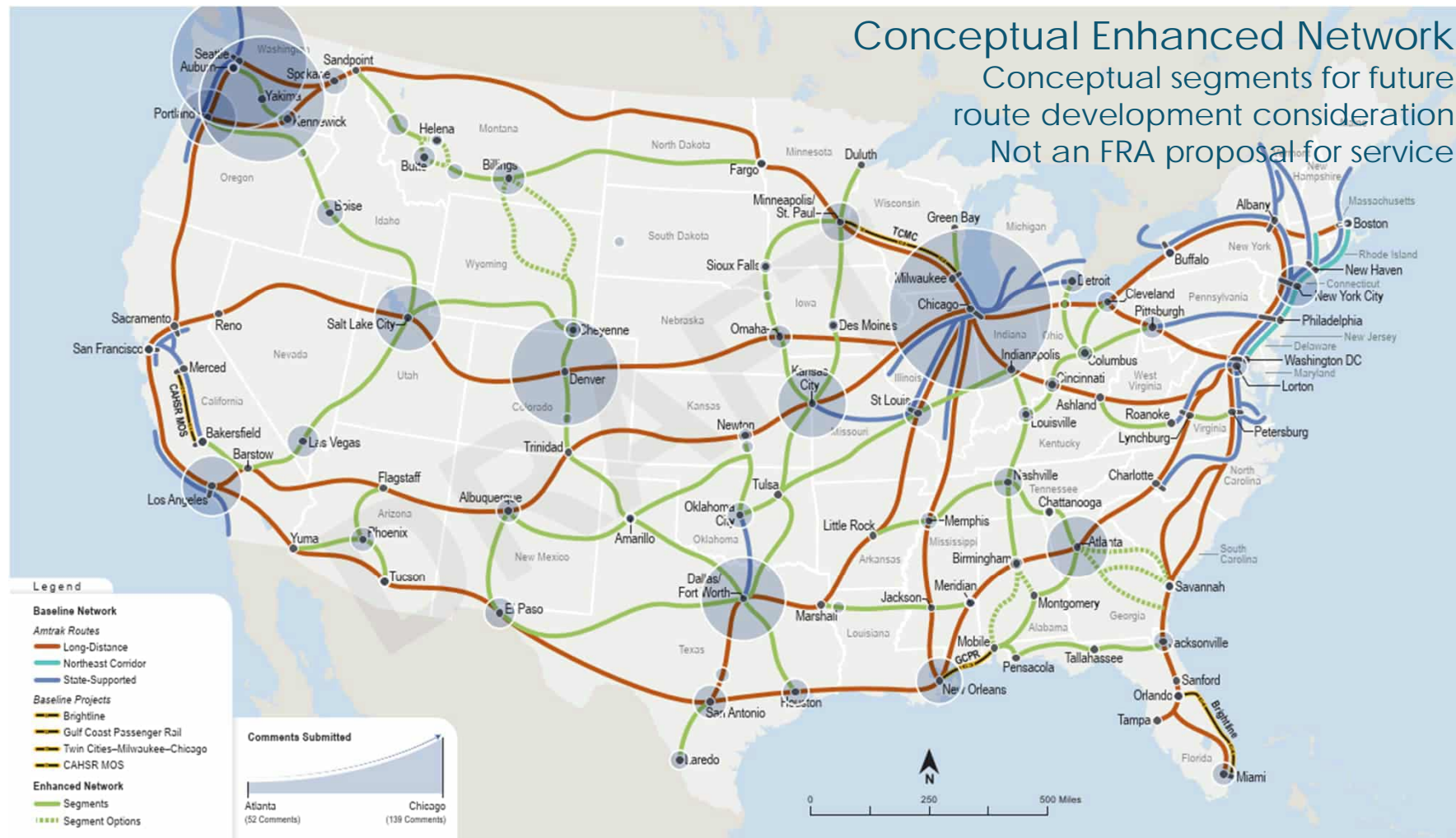
- Participants were asked how FRA and Amtrak could coordinate with stakeholders about current and future long-distance services.
 - Themes for current and future service input included:
 - ✓ Community and Rider Engagement: Increased awareness of services and related benefits; coordinated marketing with states and communities; local first/last mile connections; rider surveys; engagement with Tribal Nations, disability community, health care providers, higher education, and tourism/chambers of commerce
 - ✓ Planning: Coordinated planning across states and corridor(s), including regional transportation plans and potential multimodal connections/hubs; schedules; station amenities
 - Potential models of governance bodies included:
 - ✓ Congressionally-created bodies, such as SAIPRC and NECC; Interstate Rail Compacts, including SRC and MIPRC
 - ✓ Others, including: SPRC, Associations (APTA, AASHTO, CTAA), and MPOs

Feedback from the Website from Meeting Series 2

- Received approximately 2,000 comments in the weeks after meeting series 2
 - Project team reviewed and categorized all comments
 - Reviewed comments pertaining to termini and intermediate stations
 - Continued to see comments in support of the study and long-distance service



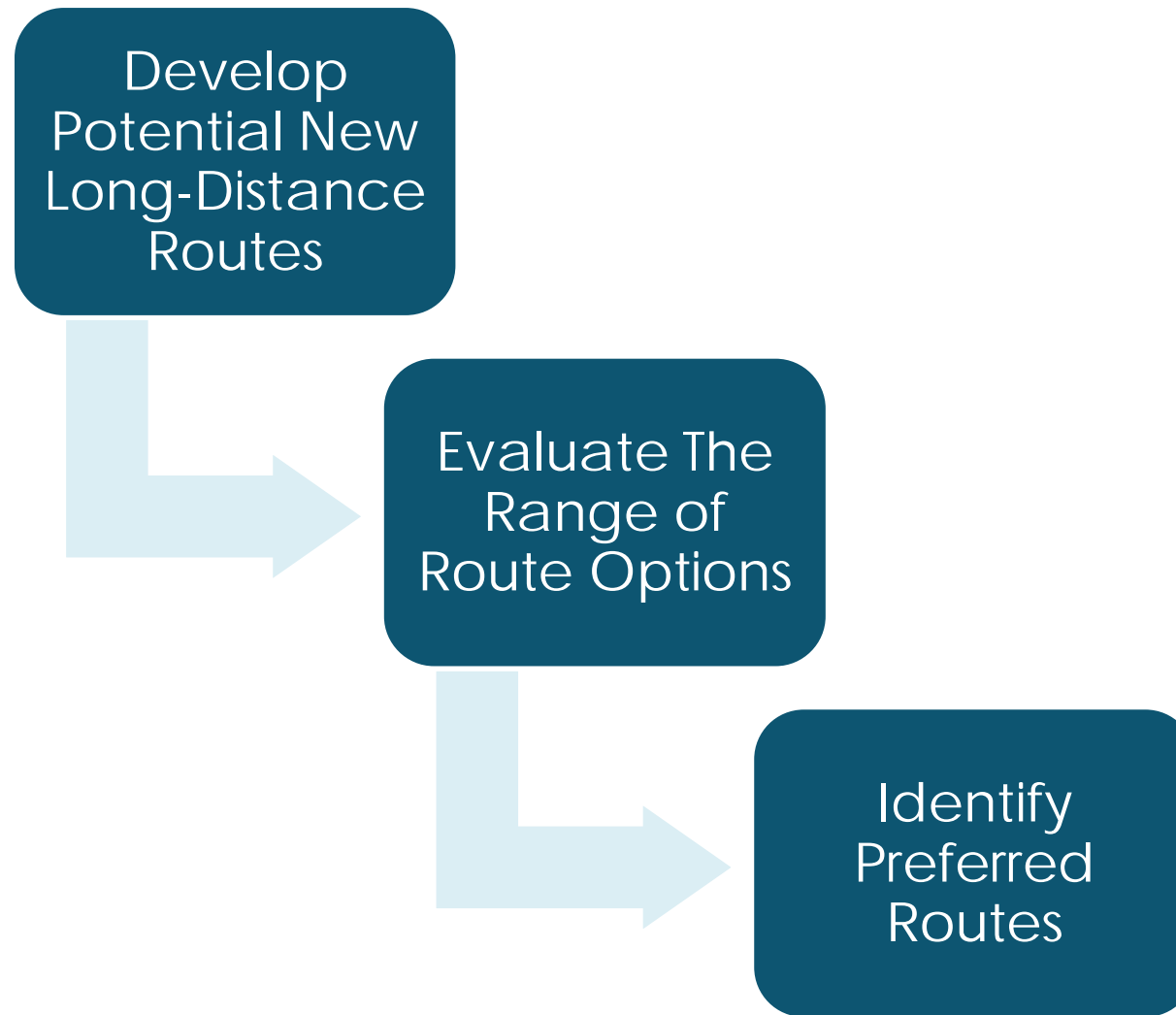
Route Feedback after Meeting Series 2



Conceptual Enhanced Network presented at Meeting Series 2, July 2023. Not an FRA proposal for service. Segments are conceptual building blocks for consideration in developing potential new long-distance routes.

ROUTE DEVELOPMENT AND EVALUATION METHODOLOGY

Route Development and Evaluation Methodology



DEVELOP POTENTIAL NEW LONG-DISTANCE ROUTES

Methods Align with the Legislative Considerations

1 Large and Small Communities

Identify metropolitan area travel flows not served by the existing passenger rail network



Link and serve large and small communities as part of a regional rail network

2 Focus on Rural

Identify rural and disadvantaged communities not served by existing passenger rail network



Advance the economic and social well-being of rural areas of the United States

3 Enhance Connectivity

Identify gaps in the passenger rail network, and reflect regional plans for passenger rail service



Provide enhanced connectivity for the national long-distance passenger rail system

4 Reflect Public Engagement

Check that Enhanced Network reflects stakeholder and public inputs



Reflect public engagement and local and regional support for restored passenger rail service

Existing Network



- Legend**
- Existing Network
 - Amtrak Routes
 - Long-Distance
 - Northeast Corridor
 - State-Supported

Data provided by Amtrak, 2022

Baseline Network



Legend

Baseline Network

Amtrak Routes

- Long-Distance
- Northeast Corridor
- State-Supported

Baseline Projects

- Brightline
- Gulf Coast Passenger Rail
- Twin Cities-Milwaukee-Chicago
- CAHSR MOS

Existing Route and Station Data provided by Amtrak 2022; Baseline Projects Data provided by FRA 2023

Conceptual Enhanced Network

Conceptual segments for future route development consideration
Not an FRA proposal for service



Legend

Baseline Network

Amtrak Routes

- Long-Distance
- Northeast Corridor
- State-Supported

Baseline Projects

- Brightline
- Gulf Coast Passenger Rail
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- CAHSR MOS

Enhanced Network

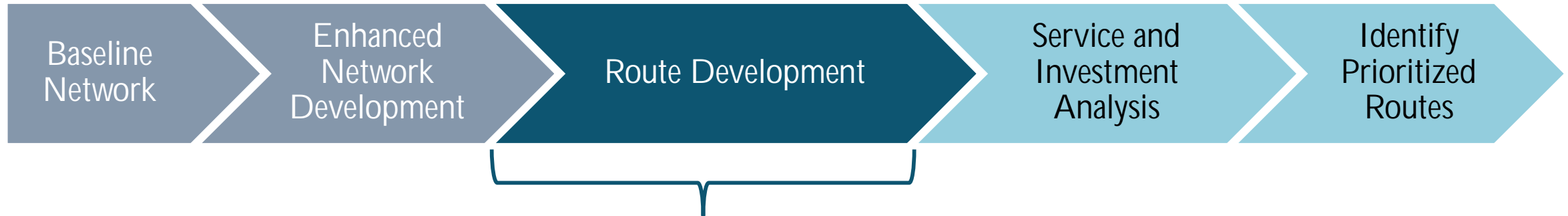
- Segments
- - - Segment Options

Presented at Regional Working Group Meetings July 2023

Segments are conceptual building blocks for consideration in developing potential new long-distance routes



Approach to Develop Potential New Long-Distance Routes



Develop Potential New Long-Distance Routes

- Followed principles for long-distance service developed for this study
 - Begin and end in major markets
 - String together multiple intermediate markets
 - Avoid circuitous routing
 - Are more than 750 miles but less than 2000 miles in length
- Identified terminal markets for potential new long-distance routes
- Connected terminal markets with a range of route options
 - Use new segments in the Enhanced Network
 - New segments in the Enhanced Network reflect the legislative considerations

Approach to Develop Potential New Long-Distance Routes

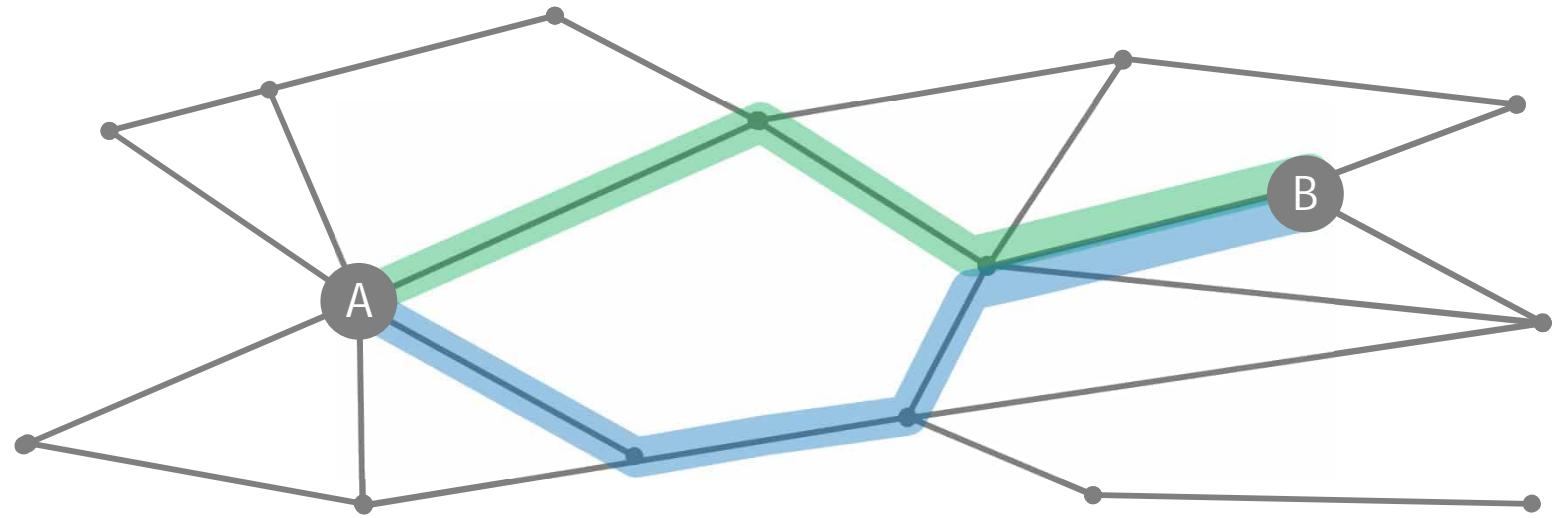


Develop Potential New Long-Distance Routes

- Routes and route options developed to address:
 - Metropolitan Area Travel Flows
 - Rural Accessibility
 - Geographic Coverage/Network Connectivity
 - Additional Considerations: Stakeholder Input and Discontinued Routes
- Evaluated the range of route options to select one route option for each potential new long-distance route

Approach to Develop Potential New Long-Distance Routes

Example: Two route options connecting major markets A and B



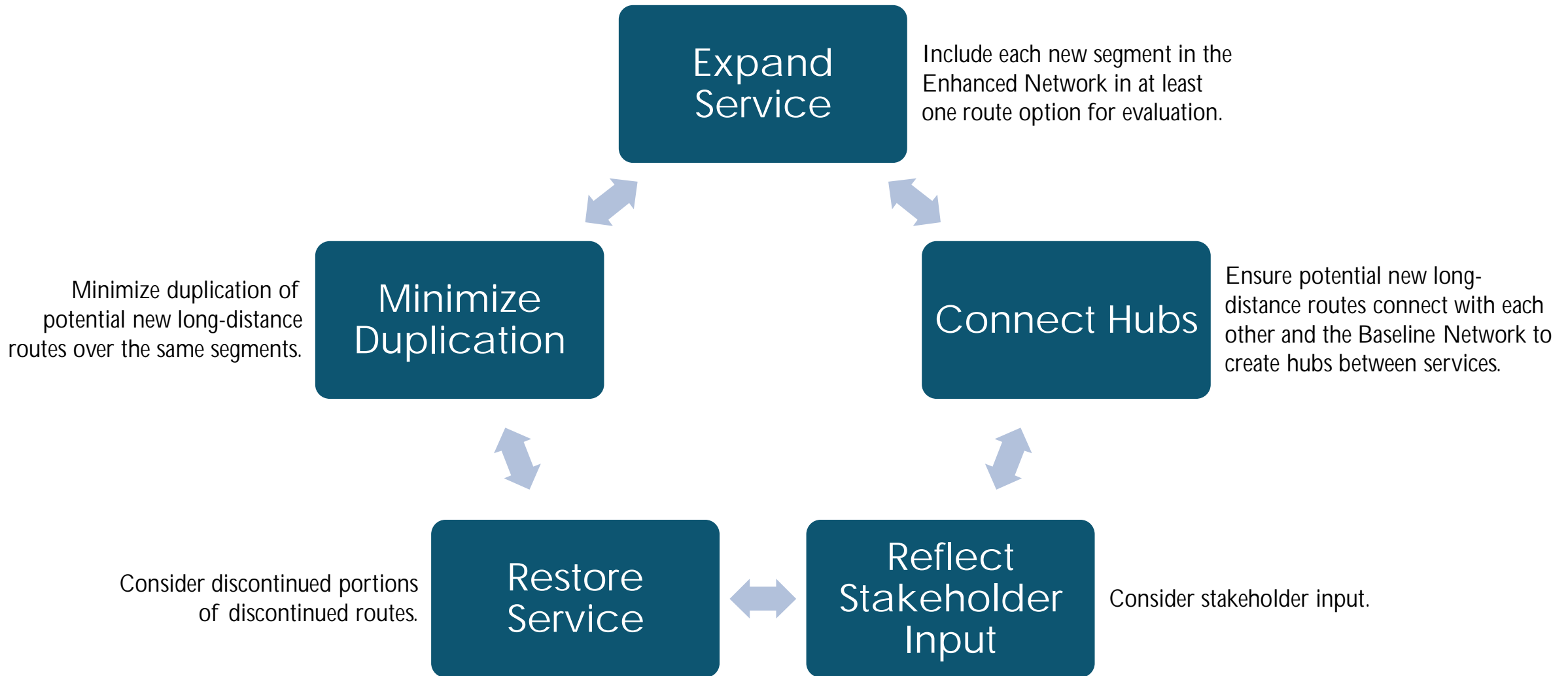
Route

- Made up of segments in the Enhanced Network
- Start and end in major markets
- Represents an existing or potential new long-distance route
- A long-distance route is over 750 miles in length

Route Options

- There are multiple ways to connect major markets using segments in the Enhanced Network
- Route options are the alternative means to connect the same or similar major markets using segments in the Enhanced Network

Approach to Develop Potential New Long-Distance Routes



Metropolitan Area Travel Flows

Considered travel demand between Metropolitan Statistical Areas (MSAs)

Based on 2021 Next-Generation (NextGen) National Household Travel Survey (NHTS) National Passenger Origin-Destination Data

- Identified terminal markets for potential new long-distance routes
 - MSA pairs with 500,000 annual trips or more across all modes
 - Trip lengths of 750 to 2,000 miles
 - MSA pairs not served directly by rail in the Baseline Network
- Connected terminal markets with a range of route options
 - Considered travel demand between intermediate markets
 - MSA pairs with 500,000 annual trips or more across all modes

In addition to metropolitan area travel flows, many routes and route options were developed to address needs related to rural accessibility.

MSA: Urbanized areas with a minimum population of 50,000

Rural Accessibility

Considered those new segments in the Enhanced Network that provide rail service to:

- Rural Counties
- Tribal Lands
- USDOT Justice 40 Transportation and Health Disadvantaged Areas
- Identified terminal markets for potential new long-distance routes:
 - Population greater than 500,000
 - MSA pairs are 750 to 2000 miles apart
- Connected terminal markets with a range of route options

In addition to metropolitan area travel flows and rural accessibility, many routes and route options were developed to address needs related to geographic coverage and network connectivity.

Geographic Coverage/Network Connectivity

Considered those new segments in the Enhanced Network that provide:

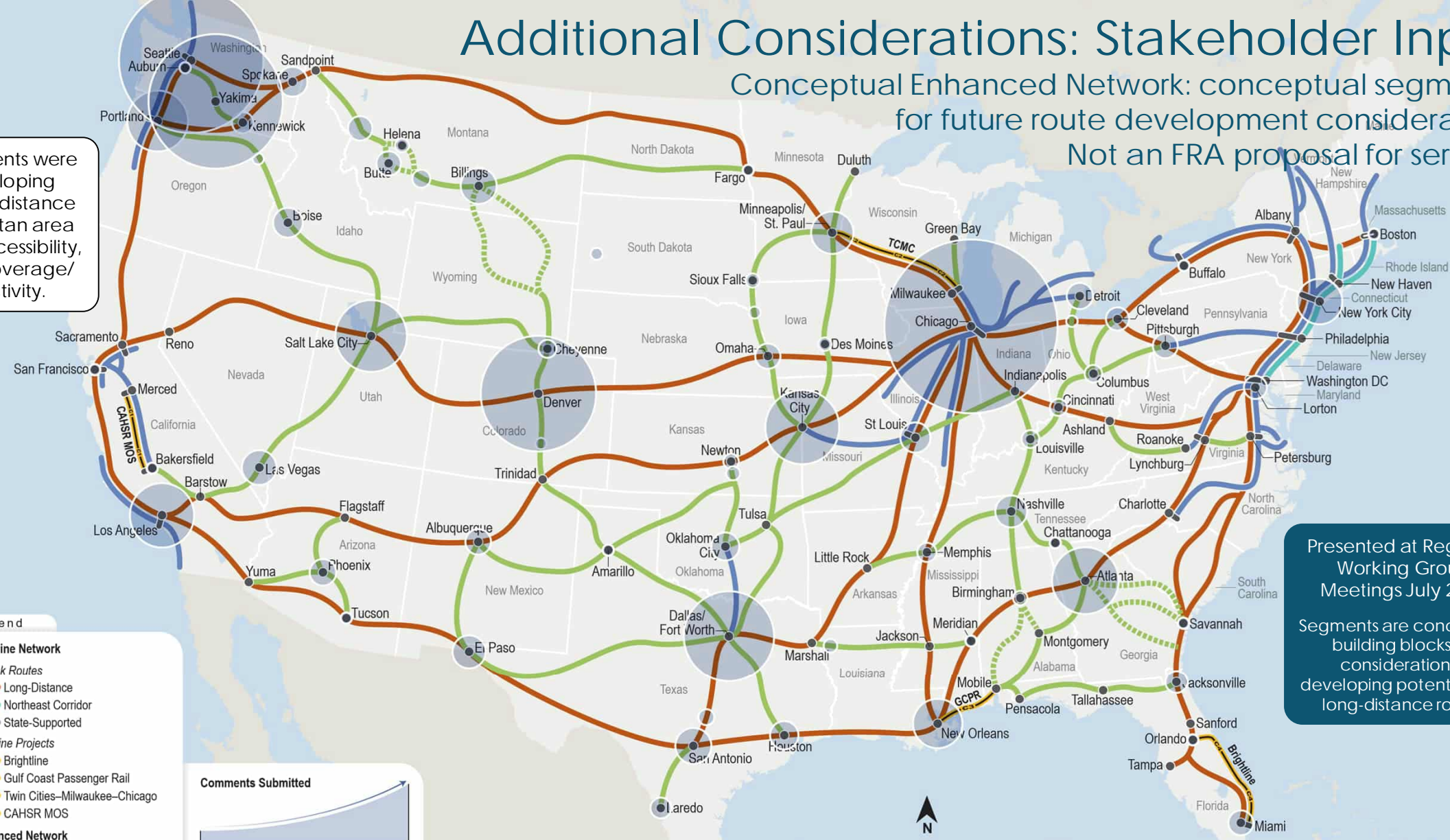
- Rail service to unserved communities
- Connectivity with other passenger rail services
- Identified terminal markets for potential new long-distance routes:
 - MSA pairs are 750 to 2000 miles apart
 - Served by the Baseline Network or another Preferred Route
- Connected terminal markets with a range of route options

Routes and route options developed to address metropolitan area travel flows, rural accessibility, and geographic coverage and network connectivity.

Additional Considerations: Stakeholder Input

Conceptual Enhanced Network: conceptual segments for future route development consideration
 Not an FRA proposal for service

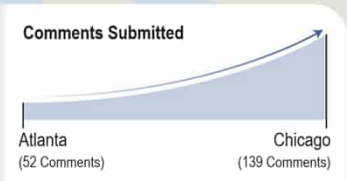
Stakeholder comments were reviewed in developing potential new long-distance routes for metropolitan area travel flows, rural accessibility, and geographic coverage/network connectivity.



Legend

Baseline Network

- Amtrak Routes
 - Long-Distance
 - Northeast Corridor
 - State-Supported
- Baseline Projects
 - Brightline
 - Gulf Coast Passenger Rail
 - Twin Cities-Milwaukee-Chicago
 - CAHSR MOS
- Enhanced Network
 - Segments
 - Segment Options



Presented at Regional Working Group Meetings July 2023

Segments are conceptual building blocks for consideration in developing potential new long-distance routes



Additional Considerations: Discontinued Network

- Examination of Long-Distance routes occurred during the formation of Amtrak in 1970
 - The passenger rail network was evaluated by US DOT and a system recommended to be continued by Amtrak
 - Criteria considered included: national transportation need (available alternative modes), demand, cost competitiveness, population of endpoint cities, profitability, and required capital investment
- The Amtrak Improvement Act of 1978 required US DOT to evaluate Amtrak's network based on financial performance, resulting in removal of several routes
 - Two primary metrics for evaluating route performance were ridership density (passenger-mile/train mile) and loss per passenger-mile
- In 1996, Amtrak's Intercity Strategic Business Unit (ISBU) performed another review of its Long-Distance network, resulting in the removal of additional routes
 - Criteria considered included financial performance, costs saved by elimination, route interconnectivity, and long-term growth and profit opportunities

Additional Considerations: Discontinued Network

Pre-1971 Routes

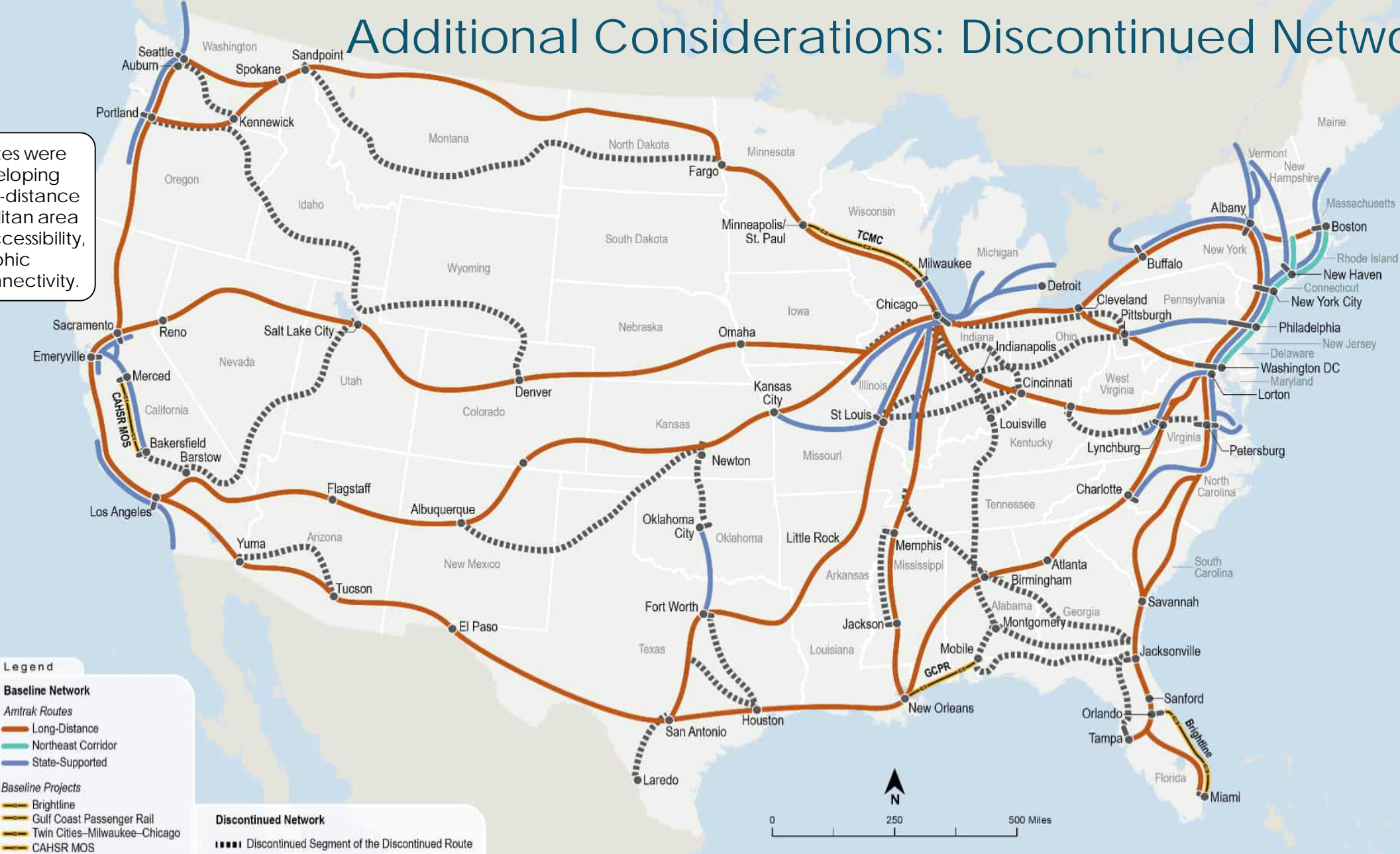
Route	Endpoints	Disc.
City of Miami	Chicago, IL and Miami/St. Petersburg, FL	1971
George Washington	St. Louis, MO and Washington, D.C.	1971
Pan American	New Orleans, LA and Cincinnati, IN	1971
San Francisco Chief	Richmond, CA and Chicago, IL	1971

Former Amtrak Routes

Route	Endpoints	Disc.
James Whitcomb Riley	Chicago, IL and Washington/Newport News	1977
Mountaineer	Chicago, IL and Norfolk, VA	1977
Champion	St. Petersburg, FL and New York, NY	1979
Floridian	Chicago, IL and St. Petersburg/Miami, FL	1979
Hilltopper	Catlettsburg, KY and Boston, MA	1979
Lone Star	Dallas/Houston, TX and Chicago, IL	1979
National Limited	Kansas City, MO and New York/Washington	1979
North Coast Hiawatha	Seattle, WA and Chicago, IL	1979
Inter-American	Laredo/Houston, TX and Chicago, IL	1981
River Cities	New Orleans, LA and Kansas City, MO	1993
Gulf Breeze	Mobile, AL, and New York, NY	1995
Texas Eagle - Houston	Houston, TX and Chicago, IL	1995
Sunset Limited - West	Los Angeles, CA and New Orleans, LA	1996
Desert Wind	Los Angeles, CA and Chicago, IL	1997
Pioneer	Seattle, WA and Chicago, IL	1997
Silver Palm/Palmetto	Miami, FL and New York, NY	2004
Sunset Limited - East	New Orleans, LA and Miami, FL New Orleans, LA and Orlando, FL	1996 2005
Broadway Limited/Three Rivers	Chicago, IL and New York, NY	2005

Additional Considerations: Discontinued Network

Discontinued routes were reviewed in developing potential new long-distance routes for metropolitan area travel flows, rural accessibility, and geographic cover/network connectivity.



- Legend**
- Baseline Network**
- Amtrak Routes
 - Long-Distance
 - Northeast Corridor
 - State-Supported
- Baseline Projects**
- Brightline
 - Gulf Coast Passenger Rail
 - Twin Cities–Milwaukee–Chicago
 - CAHSR MOS

Discontinued Network

- Discontinued Segment of the Discontinued Route



Existing Route and Station Data as well as Discontinued Route Data provided by Amtrak 2022; Baseline Projects Data provided by FRA 2023

EVALUATE THE RANGE OF ROUTE OPTIONS

Route Options Evaluation Methodology

Evaluated the range of route options to select one route option for each potential new long-distance route

- Compared route options based on evaluation criteria
 - Compare and rate quantitative data
 - Evaluation criteria organized into four categories that align with the legislative considerations
 - ✓ Metropolitan Area Travel Flows
 - ✓ Rural Accessibility
 - ✓ Geographic Coverage/Network Connectivity
 - ✓ Stakeholder Input
 - Results of the comparison summarized by category
 - Other factors: Considered when selecting a route option where the evaluation criteria alone is inconclusive
 - ✓ Professional Judgement: leverage rail planning experience
 - ✓ Discontinued Network: Portion of discontinued routes that no longer have service
- Defined catchment areas for the route options to collect data
- Excluded trips for route options serving local MSA pairs

Evaluation Criteria

1 Large and Small Communities

Metropolitan Area Travel Flows

- Travel Demand: Number of annual trips per mile for all MSA trips pairs on the route option (2021 NextGen NHTS National Passenger Origin-Destination Data)

2 Focus on Rural

Rural Accessibility

- Transportation Disadvantaged Access: Population per mile (USDOT Justice 40 Disadvantaged areas)
- Tribal Access: Population per mile (American Indian, American Indian Tribal Subdivisions, Bureau of Indian Affairs, and Oklahoma Tribal Statistical Areas)
- Higher Education Access: Number of higher education institutions (Public and private not-for-profit)
- Medical Center Access: Number of medical centers (Level I or II trauma centers, cancer facilities, veteran facilities)
- National Park Access: Number NPS lands (National Park Service national parks, recreation areas, and preserves)

3 Enhance Connectivity

Geographic Coverage/Network Connectivity

- Access for MSAs Unserved by Existing Passenger Rail: Number and population of MSAs (Population of census tracts in MSAs)
- Restored Portions of Discontinued Routes: Percent of route miles that include discontinued long-distance routes

4 Reflect Public Engagement

Stakeholder Input

- Feedback from Stakeholders: Top quartile by volume of comments received supporting markets and segments in route options

Places Served by the Route Options

Baseline Network

- Catchment area around existing stations

New Segment consistent with the Discontinued Network

- Catchment area around discontinued stations

New Segment where long-distance passenger rail service has not operated

- Catchment area buffer around new segments

Catchment Area: To support network-level analysis, catchment areas are defined as a 30-mile radius where the station or new segment is in an MSA, or a 50-mile radius where the station or new segment is in a non-MSA area.

Evaluation Criteria

- Analysis of travel demand data excluded major local trips
 - Some routes include local city pairs that may significantly bolster the overall travel flow.
 - Excluded these markets to accurately reflect demand for potential new long-distance routes.
 - Trips flows between MSA pairs were excluded if two conditions were met:
 - ✓ MSA pairs were within 100 miles
 - ✓ MSA pairs exceeded the 80th percentile of all demand for a given route option
- Examples: Excluded trips for route options serving MSA pairs

San Antonio – Austin, TX

- 53 million annual trips
- 80 miles

Denver – Boulder, CO

- 70 million annual trips
- 25 miles

Dayton – Springfield, OH

- 25 million annual trips
- 25 miles

IDENTIFICATION OF THE PROPOSED NETWORK OF PREFERRED ROUTES

Inclusion of Cardinal and Sunset Limited

- This study is required to evaluate the restoration of daily passenger rail service along any long-distance routes that occur on a nondaily basis.
- The restoration of daily Cardinal and Sunset Limited passenger rail service is assumed when identifying the proposed network of preferred routes.

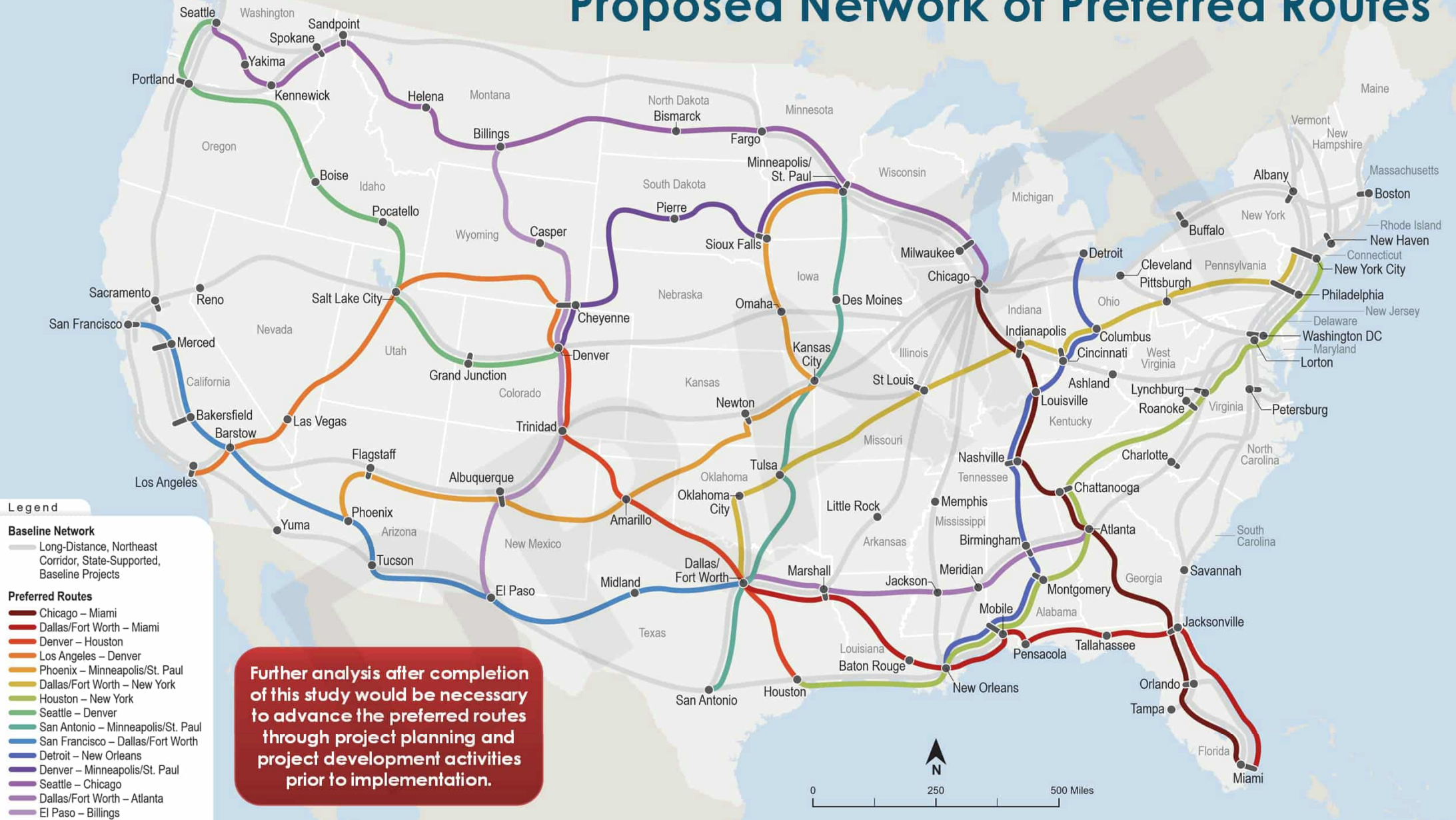


Cardinal: Chicago-
New York



Sunset Limited: Los
Angeles-New Orleans

Proposed Network of Preferred Routes



Proposed Network of Preferred Routes

- Chicago - Miami
- Dallas/Fort Worth - Miami
- Denver - Houston
- Los Angeles - Denver
- Phoenix - Minneapolis/St. Paul
- Dallas/Fort Worth - New York
- Houston - New York
- Seattle - Denver
- San Antonio - Minneapolis/St. Paul
- San Francisco - Dallas/Fort Worth
- Detroit - New Orleans
- Denver - Minneapolis/St. Paul
- Seattle - Chicago
- Dallas/Fort Worth - Atlanta
- El Paso - Billings

Southwest Region

- Denver - Houston
- Los Angeles - Denver
- Phoenix - Minneapolis/St. Paul
- Seattle - Denver
- San Francisco - Dallas/Fort Worth
- Denver - Minneapolis/St. Paul
- El Paso - Billings

Proposed Network of Preferred Routes

- Chicago - Miami
- Dallas/Fort Worth - Miami
- Denver - Houston
- Los Angeles - Denver
- Phoenix - Minneapolis/St. Paul
- Dallas/Fort Worth - New York
- Houston - New York
- Seattle - Denver
- San Antonio - Minneapolis/St. Paul
- San Francisco - Dallas/Fort Worth
- Detroit - New Orleans
- Denver - Minneapolis/St. Paul
- Seattle - Chicago
- Dallas/Fort Worth - Atlanta
- El Paso - Billings

Southeast Region

- Chicago - Miami
- Dallas/Fort Worth - Miami
- Houston - New York
- Detroit - New Orleans
- Dallas/Fort Worth - Atlanta

Proposed Network of Preferred Routes

- Chicago - Miami
- Dallas/Fort Worth - Miami
- Denver - Houston
- Los Angeles - Denver
- Phoenix - Minneapolis/St. Paul
- Dallas/Fort Worth - New York
- Houston - New York
- Seattle - Denver
- San Antonio - Minneapolis/St. Paul
- San Francisco - Dallas/Fort Worth
- Detroit - New Orleans
- Denver - Minneapolis/St. Paul
- Seattle - Chicago
- Dallas/Fort Worth - Atlanta
- El Paso - Billings

Northwest Region

- Denver - Houston
- Los Angeles - Denver
- Seattle - Denver
- Denver - Minneapolis/St. Paul
- Seattle - Chicago
- El Paso - Billings

Proposed Network of Preferred Routes

- Chicago - Miami
- Dallas/Fort Worth - Miami
- Denver - Houston
- Los Angeles - Denver
- Phoenix - Minneapolis/St. Paul
- Dallas/Fort Worth - New York
- Houston - New York
- Seattle - Denver
- San Antonio - Minneapolis/St. Paul
- San Francisco - Dallas/Fort Worth
- Detroit - New Orleans
- Denver - Minneapolis/St. Paul
- Seattle - Chicago
- Dallas/Fort Worth - Atlanta
- El Paso - Billings

Central Region

- Dallas/Fort Worth - Miami
- Denver - Houston
- Phoenix - Minneapolis/St. Paul
- Dallas/Fort Worth - New York
- Houston - New York
- San Antonio - Minneapolis/St. Paul
- San Francisco - Dallas/Fort Worth
- Detroit - New Orleans
- Dallas/Fort Worth - Atlanta

Proposed Network of Preferred Routes

- Chicago - Miami
- Dallas/Fort Worth - Miami
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- Houston - New York
- Seattle - Denver
- San Antonio - Minneapolis/St. Paul
- San Francisco - Dallas/Fort Worth
- Detroit - New Orleans
- Denver - Minneapolis/St. Paul
- Seattle - Chicago
- Dallas/Fort Worth - Atlanta
- El Paso - Billings

Midwest Region

- Chicago - Miami
- Phoenix - Minneapolis/St. Paul
- Dallas/Fort Worth - New York
- San Antonio - Minneapolis/St. Paul
- Detroit - New Orleans
- Denver - Minneapolis/St. Paul
- Seattle - Chicago

Proposed Network of Preferred Routes

- Chicago - Miami
- Dallas/Fort Worth - Miami
- Denver - Houston
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- Dallas/Fort Worth - New York
- Houston - New York
- Seattle - Denver
- San Antonio - Minneapolis/St. Paul
- San Francisco - Dallas/Fort Worth
- Detroit - New Orleans
- Denver - Minneapolis/St. Paul
- Seattle - Chicago
- Dallas/Fort Worth - Atlanta
- El Paso - Billings

Northeast Region

- Dallas/Fort Worth - New York
 - Oklahoma City
 - St. Louis
 - Columbus
 - Pittsburgh
 - Harrisburg
 - Lancaster
- Houston - New York
 - New Orleans
 - Montgomery
 - Atlanta
 - Chattanooga
 - Roanoke
 - Washington DC

How do the Enhanced and Preferred Network Compare?

	Baseline	Enhanced	Preferred
Total Long-Distance Route Miles	21,900	n/a	45,100
Total U.S. Population Served	247 million	290 million	292 million
Total Rural, Transportation-Disadvantaged Population Served	13 million	18 million	19 million
Total Rural Population Below the Poverty Threshold Served	18 million	27 million	27 million
Total Population on Tribal Lands Served	2 million	4 million	4 million

n/a = not applicable

Proposed Network of Preferred Routes



+61

Number of Additional
MSAs Served



91%

of all U.S. Higher
Educational Institutions
Served



+45 million

Additional U.S. Population
Served



75

National Parks, Recreation
Areas, and Preserves
Served



23,200

Long-Distance
Route Miles Added



+74%

of Previously Unserved
Population on Tribal Lands
Added



86%

of all U.S. Medical
Centers Served



43% more

Rural, Transportation-
Disadvantaged
Population Served

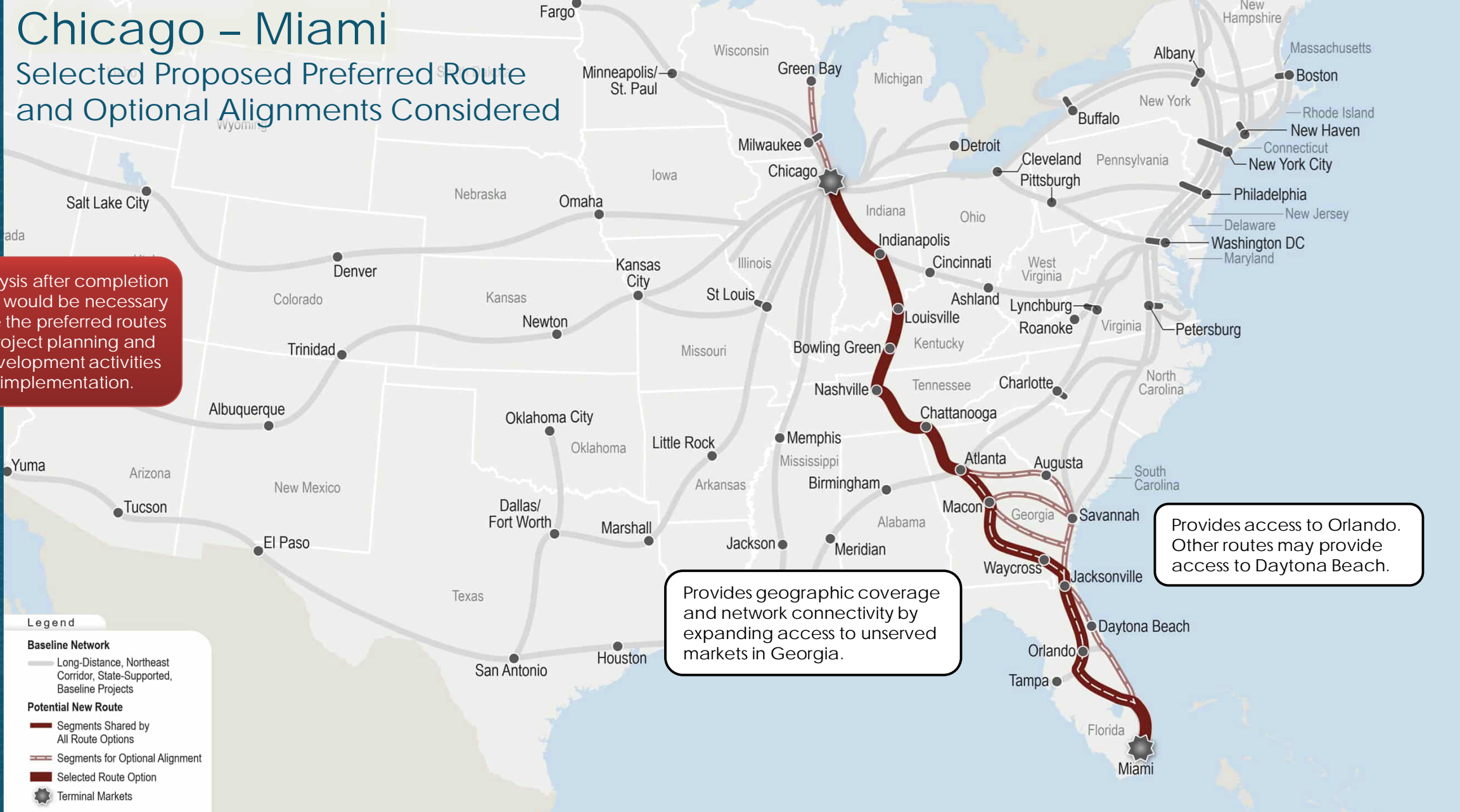
Chicago – Miami

Selected Proposed Preferred Route and Optional Alignments Considered

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Provides access to Orlando. Other routes may provide access to Daytona Beach.

Provides geographic coverage and network connectivity by expanding access to unserved markets in Georgia.



Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Segments Shared by All Route Options
- Segments for Optional Alignment
- Selected Route Option
- ★ Terminal Markets

Chicago – Miami

Selected Proposed Preferred Route and Evaluation Criteria

Access to MSAs Unserved by Passenger Rail	Number of MSAs	16
	Population of MSAs (millions)	6.96
Discontinued Routes	% of total route track miles	15%
Stakeholder Input	Top comments supporting route	Yes

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Travel Demand	Annual trips per mile (thousands)	151
Transportation Disadvantaged	Rural population per mile	1,617
Population on Tribal Lands	Population per mile	22
Higher Education	Number of institutions	317
Medical Centers	Number of medical centers	69
NPS Lands	Number of parks	16

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Selected Route Option
- Terminal Markets

Dallas/Fort Worth – Miami

Selected Proposed Preferred Route and Optional Alignments Considered

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Other routes identified in this study could provide access between Shreveport, Jackson, and Meridian.

Optional alignments between Birmingham and Jacksonville are circuitous for a Dallas/Fort Worth-Miami route.

Includes the stakeholder preferred segment between Shreveport and New Orleans.

Provides geographic coverage by restoring the segment between Mobile and Jacksonville and expanding access to unserved markets in Florida.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Segments Shared by All Route Options
- - - Segments for Optional Alignment
- Selected Route Option
- ★ Terminal Markets



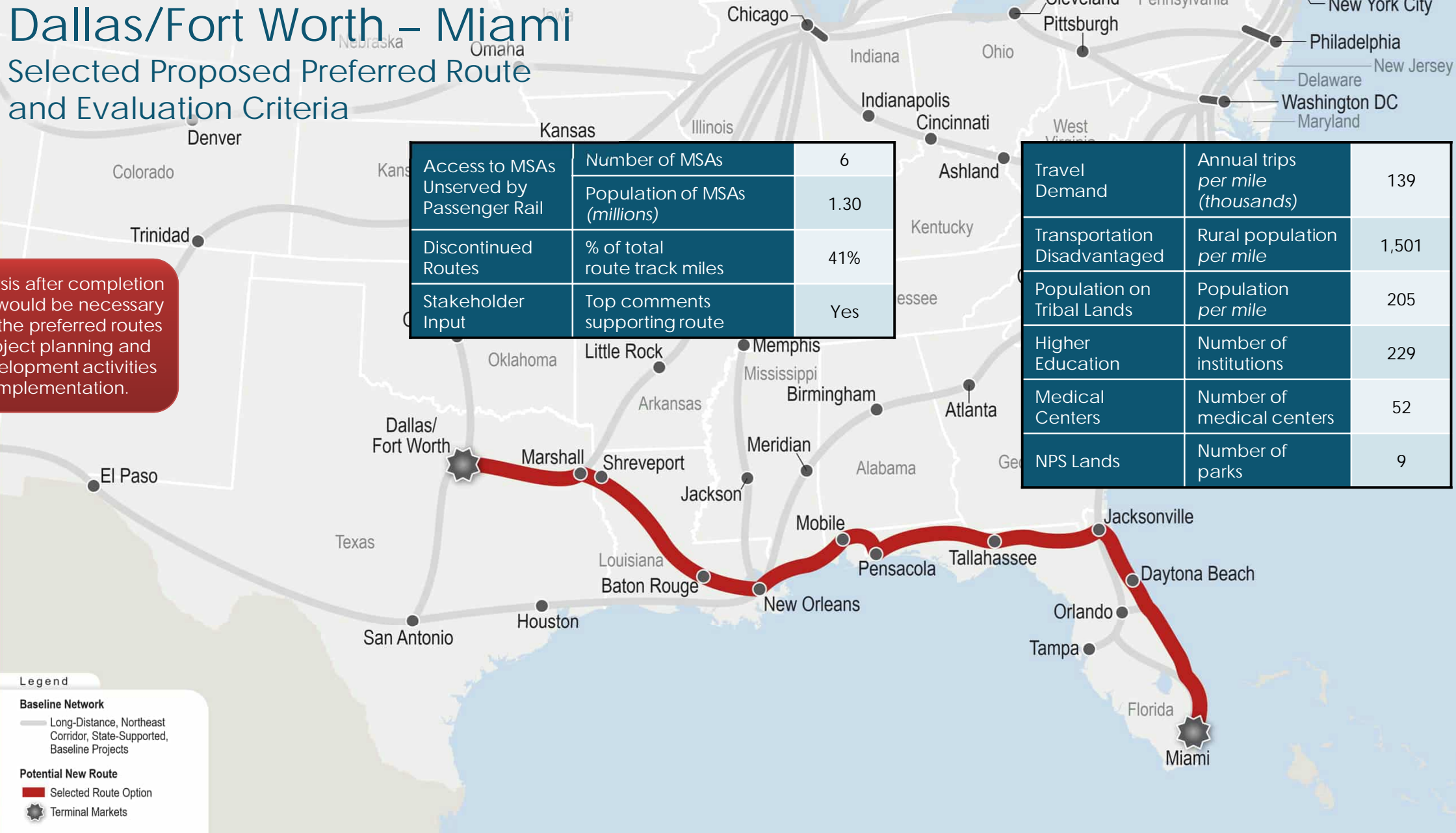
Dallas/Fort Worth – Miami

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Access to MSAs Unserviced by Passenger Rail	Number of MSAs	6
	Population of MSAs (millions)	1.30
Discontinued Routes	% of total route track miles	41%
Stakeholder Input	Top comments supporting route	Yes

Travel Demand	Annual trips per mile (thousands)	139
Transportation Disadvantaged	Rural population per mile	1,501
Population on Tribal Lands	Population per mile	205
Higher Education	Number of institutions	229
Medical Centers	Number of medical centers	52
NPS Lands	Number of parks	9



Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

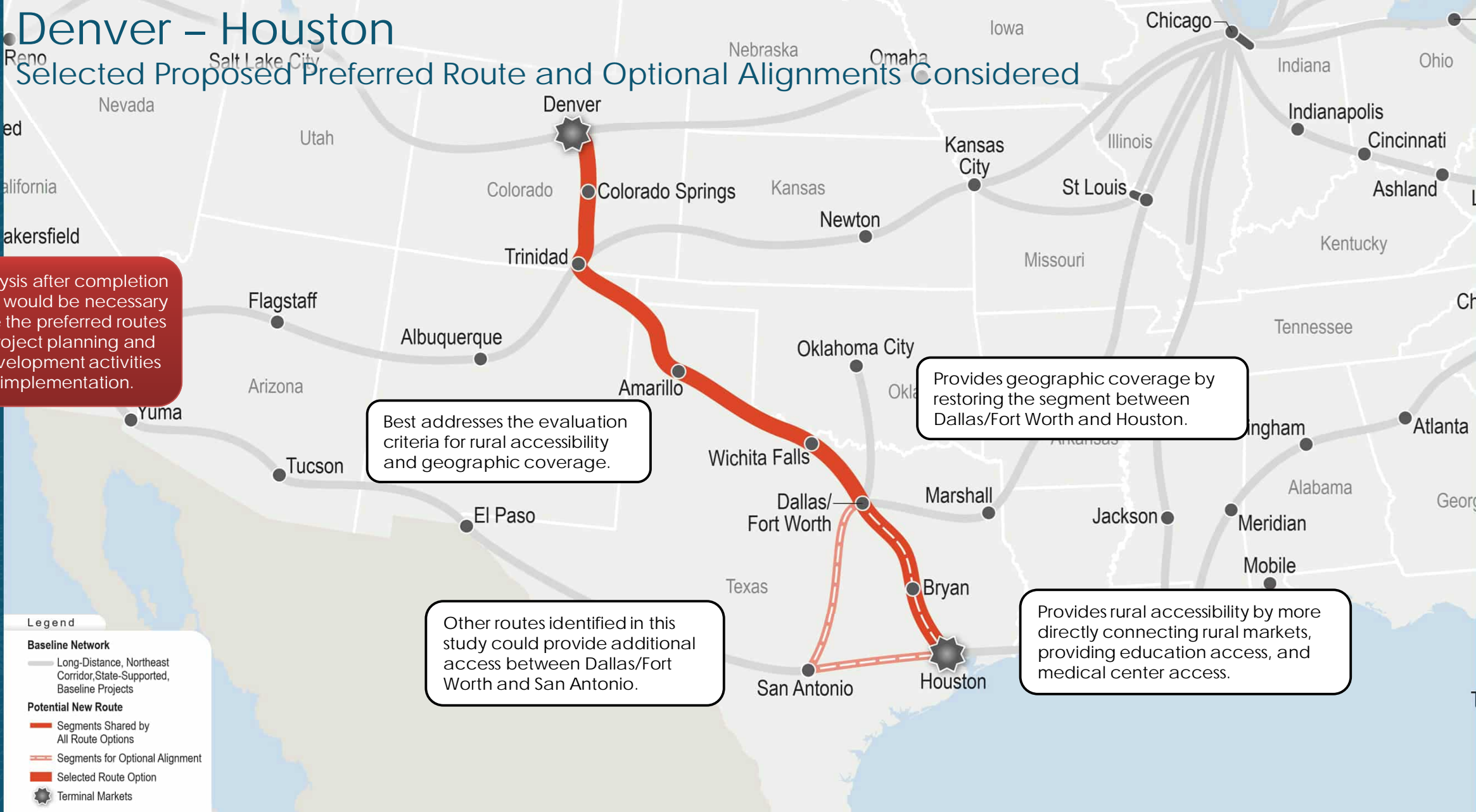
Potential New Route

- Selected Route Option
- Terminal Markets

Denver – Houston

Selected Proposed Preferred Route and Optional Alignments Considered

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.



Best addresses the evaluation criteria for rural accessibility and geographic coverage.

Provides geographic coverage by restoring the segment between Dallas/Fort Worth and Houston.

Other routes identified in this study could provide additional access between Dallas/Fort Worth and San Antonio.

Provides rural accessibility by more directly connecting rural markets, providing education access, and medical center access.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Segments Shared by All Route Options
- - - Segments for Optional Alignment
- Selected Route Option
- ★ Terminal Markets

Denver – Houston

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Travel Demand	Annual trips per mile (thousands)	39
Transportation Disadvantaged	Rural population per mile	611
Population on Tribal Lands	Population per mile	170
Higher Education	Number of institutions	127
Medical Centers	Number of medical centers	38
NPS Lands	Number of parks	6

Access to MSAs Unserved by Passenger Rail	Number of MSAs	1
	Population of MSAs (millions)	0.27
Discontinued Routes	% of total route track miles	24%
Stakeholder Input	Top comments supporting route	Yes

Legend

Baseline Network

— Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

█ Selected Route Option

⊛ Terminal Markets

Los Angeles – Denver

Selected Proposed Preferred Route and Optional Alignments Considered

Best addresses the evaluation criteria for travel demand, geographic coverage, stakeholder input.

Provides geographic coverage by restoring the segments between Las Vegas and Cheyenne, and expanding access to unserved markets in Wyoming, Utah, and Nevada.

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

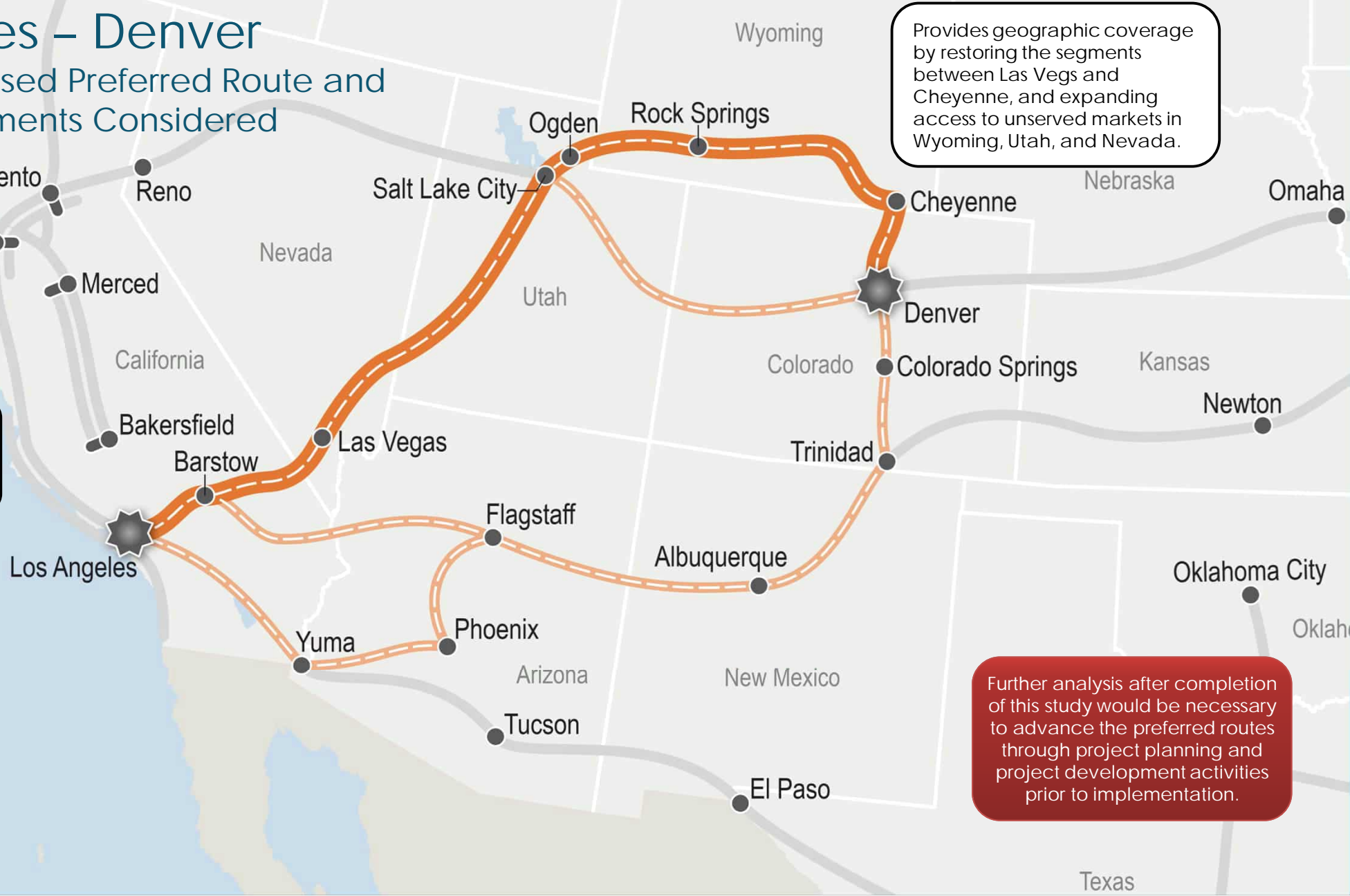
Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

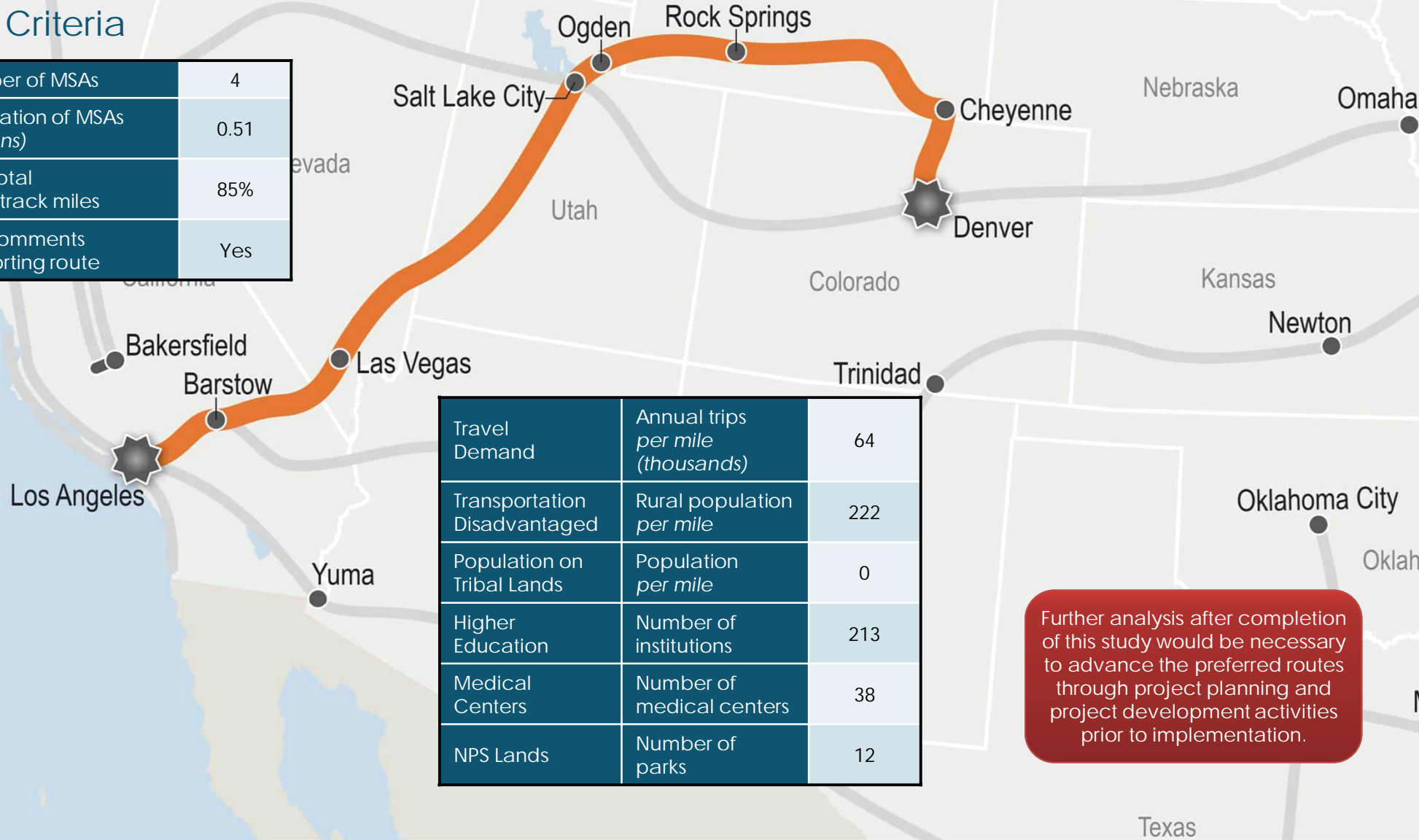
- Segments Shared by All Route Options
- - Segments for Optional Alignment
- Selected Route Option
- ★ Terminal Markets



Los Angeles – Denver

Selected Proposed Preferred Route and Evaluation Criteria

Access to MSAs Unserved by Passenger Rail	Number of MSAs	4
	Population of MSAs (millions)	0.51
Discontinued Routes	% of total route track miles	85%
Stakeholder Input	Top comments supporting route	Yes



Travel Demand	Annual trips per mile (thousands)	64
Transportation Disadvantaged	Rural population per mile	222
Population on Tribal Lands	Population per mile	0
Higher Education	Number of institutions	213
Medical Centers	Number of medical centers	38
NPS Lands	Number of parks	12

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Legend

Baseline Network

— Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

— Selected Route Option
 ⚙ Terminal Markets

Phoenix – Minneapolis/St. Paul

Selected Proposed Preferred Route

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Provides geographic coverage and network connectivity by expanding access to unserved markets in South Dakota.

Provides geographic coverage by restoring the segments between Albuquerque and Newton.

Other routes identified in this study could provide access between Phoenix and provide network connectivity.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Selected Route Option
- ★ Terminal Markets

Phoenix – Minneapolis/St. Paul

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Access to MSAs Unserved by Passenger Rail	Number of MSAs	6
	Population of MSAs (millions)	0.98
Discontinued Routes	% of total route track miles	33%
Stakeholder Input	Top comments supporting route	Yes

Travel Demand	Annual trips per mile (thousands)	28
Transportation Disadvantaged	Rural population per mile	157
Population on Tribal Lands	Population per mile	64
Higher Education	Number of institutions	187
Medical Centers	Number of medical centers	48
NPS Lands	Number of parks	13

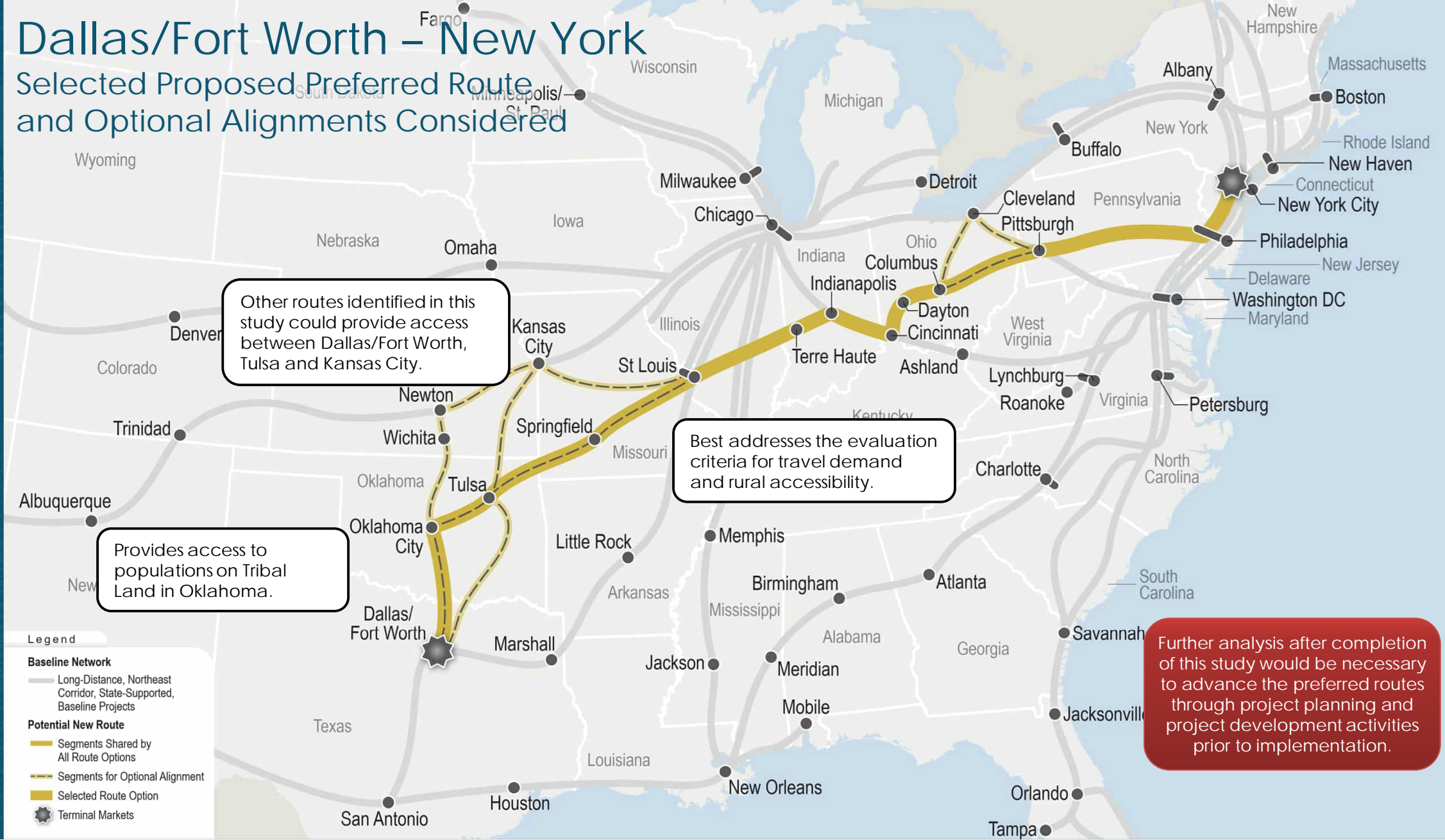
Legend

Baseline Network
 — Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route
 — Selected Route Option
 * Terminal Markets

Dallas/Fort Worth – New York

Selected Proposed Preferred Route and Optional Alignments Considered



Dallas/Fort Worth – New York

Selected Proposed Preferred Route and Evaluation Criteria

Access to MSAs Unserved by Passenger Rail	Number of MSAs	8
	Population of MSAs (millions)	4.70
Discontinued Routes	% of total route track miles	23%
Stakeholder Input	Top comments supporting route	Yes

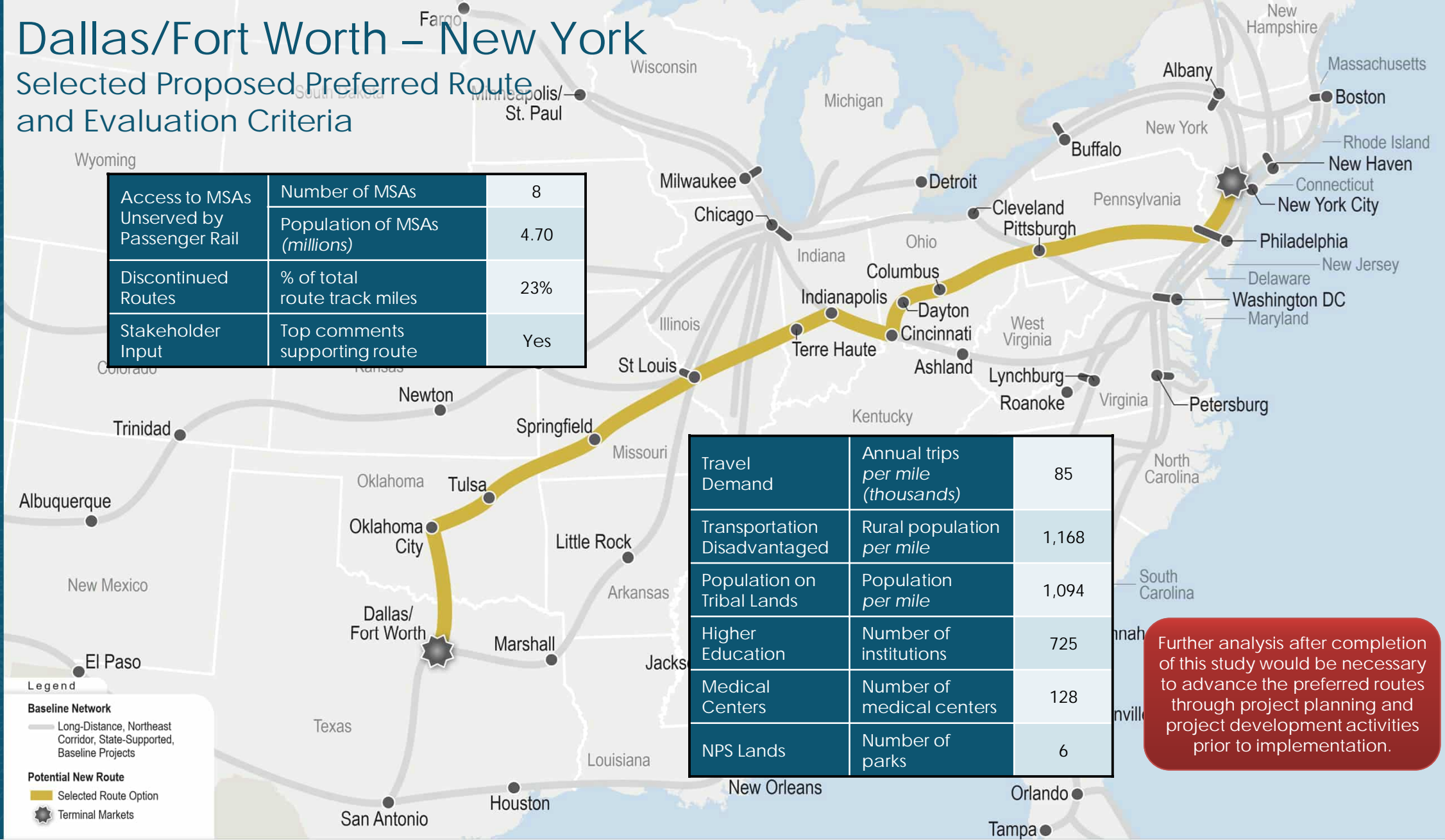
Travel Demand	Annual trips per mile (thousands)	85
Transportation Disadvantaged	Rural population per mile	1,168
Population on Tribal Lands	Population per mile	1,094
Higher Education	Number of institutions	725
Medical Centers	Number of medical centers	128
NPS Lands	Number of parks	6

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Legend

Baseline Network
 — Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route
 — Selected Route Option
 * Terminal Markets



Houston – New York

Selected Proposed Preferred Route and Optional Alignments Considered

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Other routes identified in this study could provide access between Birmingham and Cincinnati.

Includes the stakeholder preferred segment connecting Knoxville and Roanoke.

Provides rural accessibility by more directly connecting rural markets, providing medical center access, and national park access.

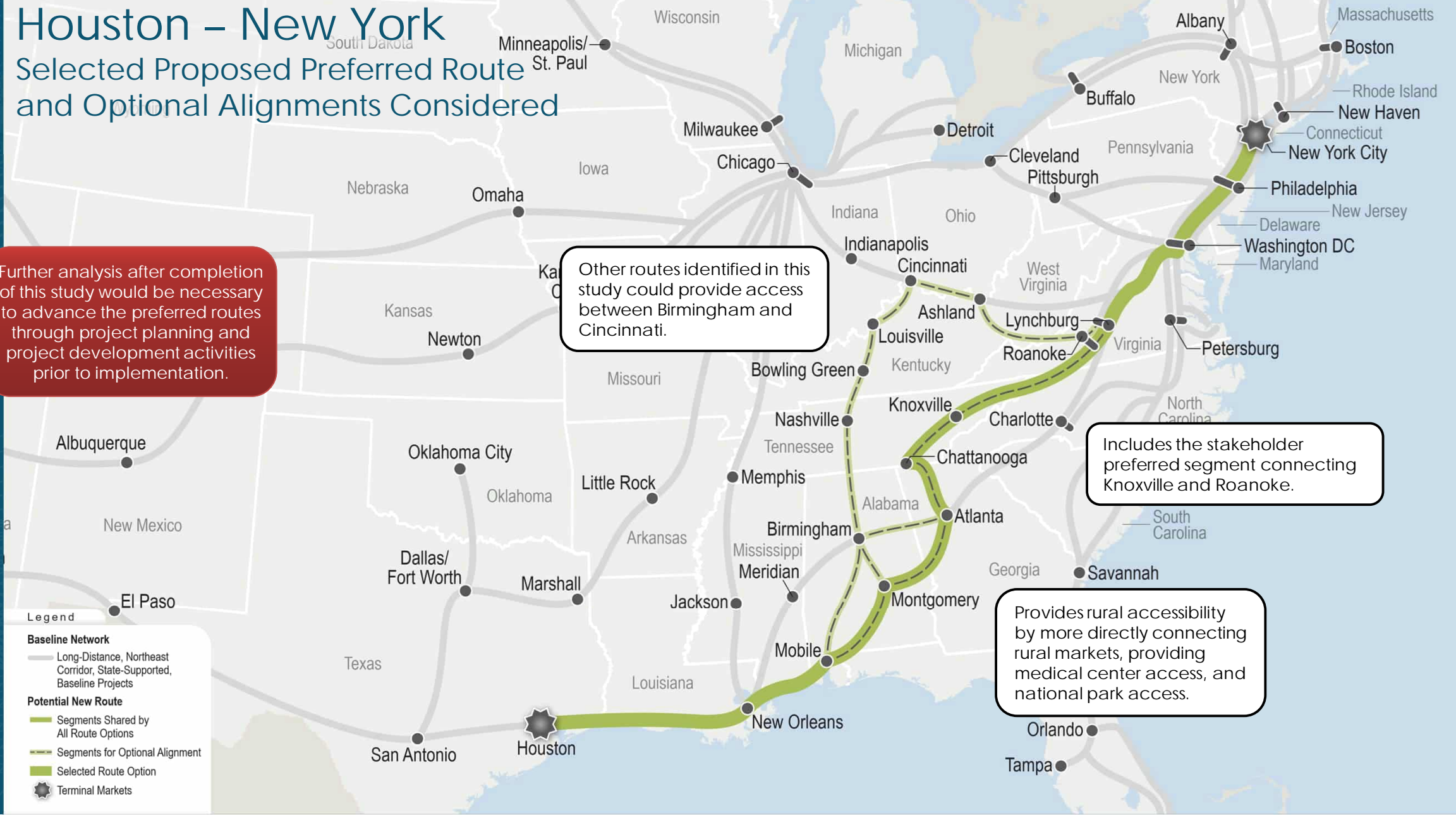
Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Segments Shared by All Route Options
- - - Segments for Optional Alignment
- Selected Route Option
- ★ Terminal Markets



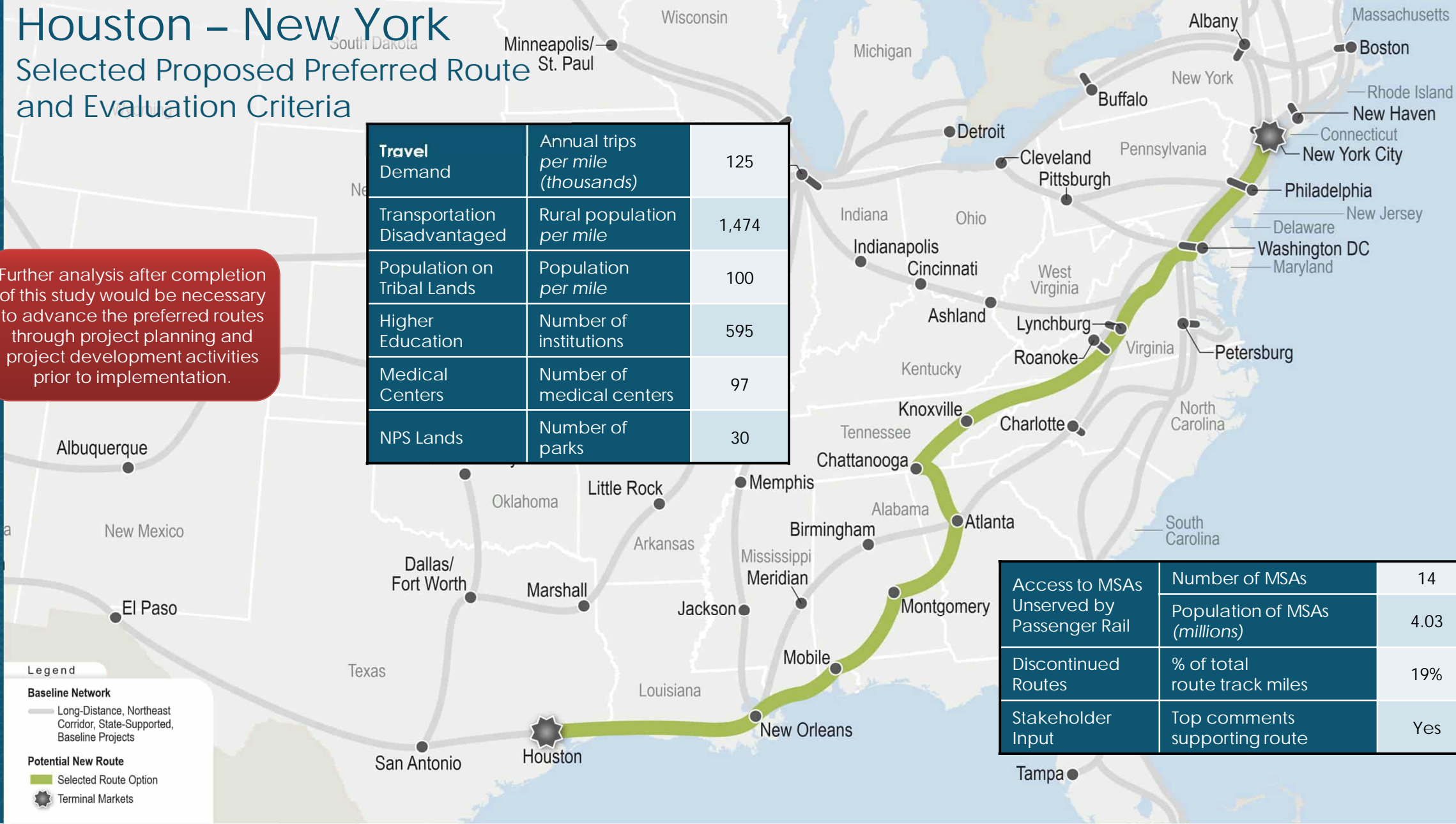
Houston – New York

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Travel Demand	Annual trips per mile (thousands)	125
Transportation Disadvantaged	Rural population per mile	1,474
Population on Tribal Lands	Population per mile	100
Higher Education	Number of institutions	595
Medical Centers	Number of medical centers	97
NPS Lands	Number of parks	30

Access to MSAs Unserved by Passenger Rail	Number of MSAs	14
	Population of MSAs (millions)	4.03
Discontinued Routes	% of total route track miles	19%
Stakeholder Input	Top comments supporting route	Yes



Seattle – Denver

Selected Proposed Preferred Route and Optional Alignments Considered

Other routes identified in this study could provide access between Kennewick, Yakima and Seattle.

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Provides geographic coverage by restoring the stakeholder preferred segment between Ogden and Boise.

Other routes identified in this study could provide access between Sandpoint, Billings, and Denver.

Best addresses the evaluation criteria for travel demand, rural accessibility, geographic coverage, and stakeholder input.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

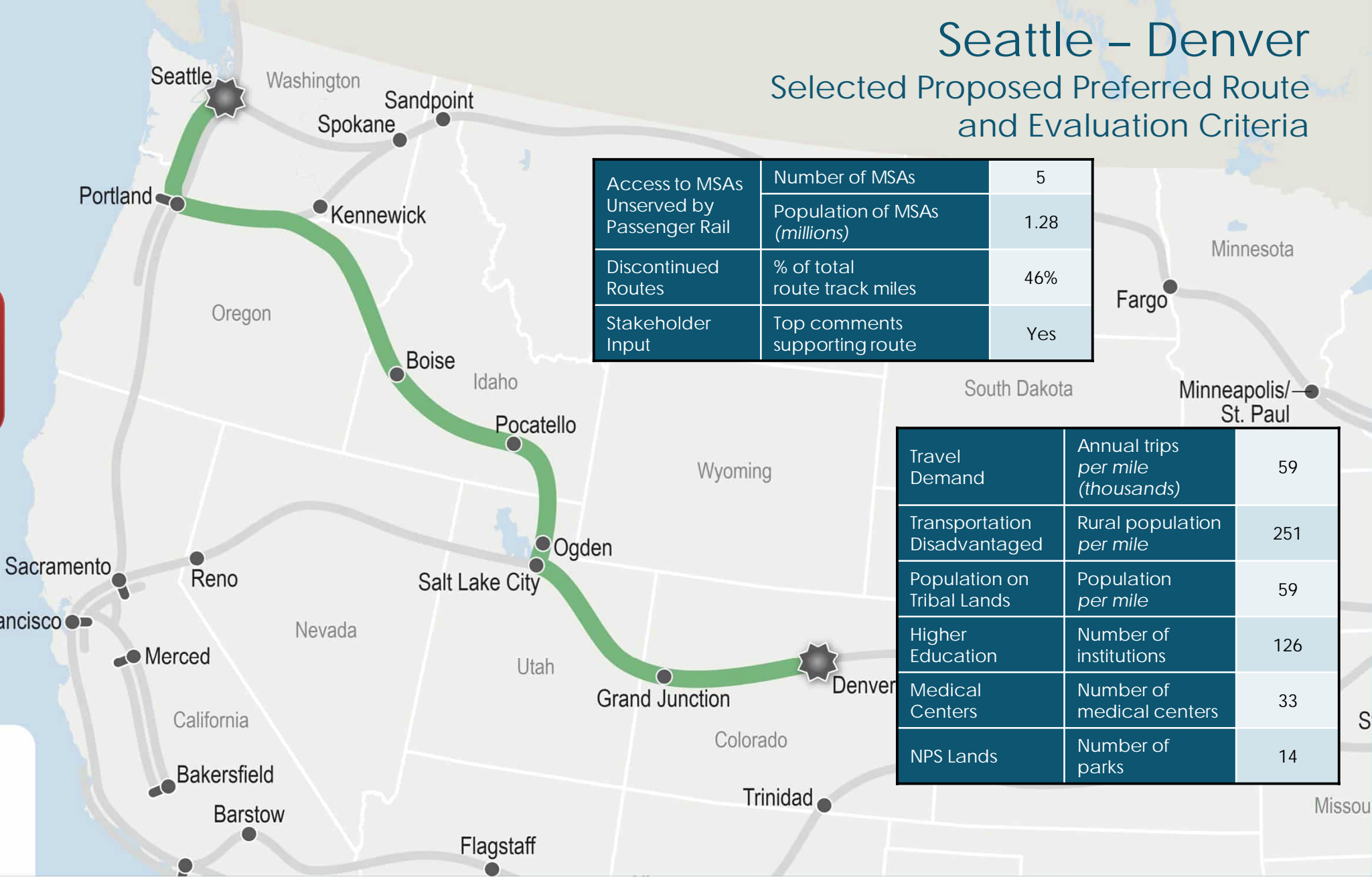
- Segments Shared by All Route Options
- Segments for Optional Alignment
- Selected Route Option
- Terminal Markets



Seattle – Denver

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.



Access to MSAs Unserviced by Passenger Rail	Number of MSAs	5
	Population of MSAs (millions)	1.28
Discontinued Routes	% of total route track miles	46%
Stakeholder Input	Top comments supporting route	Yes

Travel Demand	Annual trips per mile (thousands)	59
Transportation Disadvantaged	Rural population per mile	251
Population on Tribal Lands	Population per mile	59
Higher Education	Number of institutions	126
Medical Centers	Number of medical centers	33
NPS Lands	Number of parks	14

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Selected Route Option
- Terminal Markets

San Antonio – Minneapolis/St. Paul

Selected Proposed Preferred Route and Optional Alignments Considered

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Other routes identified in this study could provide access between Kansas City, Omaha, and Minneapolis/St. Paul.

Best addresses the evaluation criteria for travel demand and rural accessibility.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Segments Shared by All Route Options
- Segments for Optional Alignment
- Selected Route Option
- Terminal Markets



San Antonio – Minneapolis/St. Paul

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Access to MSAs Unserviced by Passenger Rail	Number of MSAs	6
	Population of MSAs (millions)	1.73
Discontinued Routes	% of total route track miles	13%
Stakeholder Input	Top comments supporting route	Yes

Travel Demand	Annual trips per mile (thousands)	52
Transportation Disadvantaged	Rural population per mile	544
Population on Tribal Lands	Population per mile	498
Higher Education	Number of institutions	238
Medical Centers	Number of medical centers	58
NPS Lands	Number of parks	6

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

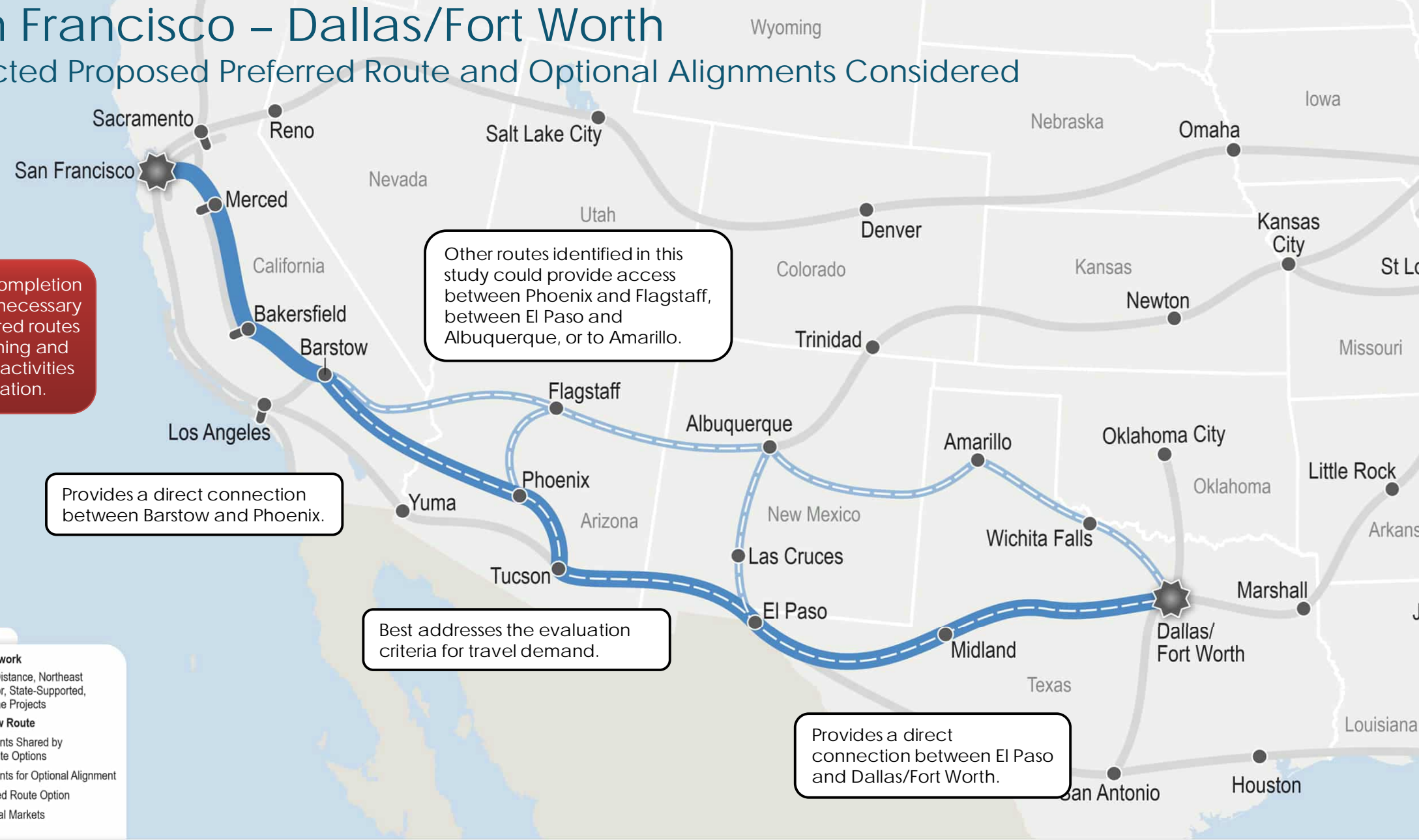
Potential New Route

- Selected Route Option
- Terminal Markets

San Francisco – Dallas/Fort Worth

Selected Proposed Preferred Route and Optional Alignments Considered

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.



Other routes identified in this study could provide access between Phoenix and Flagstaff, between El Paso and Albuquerque, or to Amarillo.

Provides a direct connection between Barstow and Phoenix.

Best addresses the evaluation criteria for travel demand.

Provides a direct connection between El Paso and Dallas/Fort Worth.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

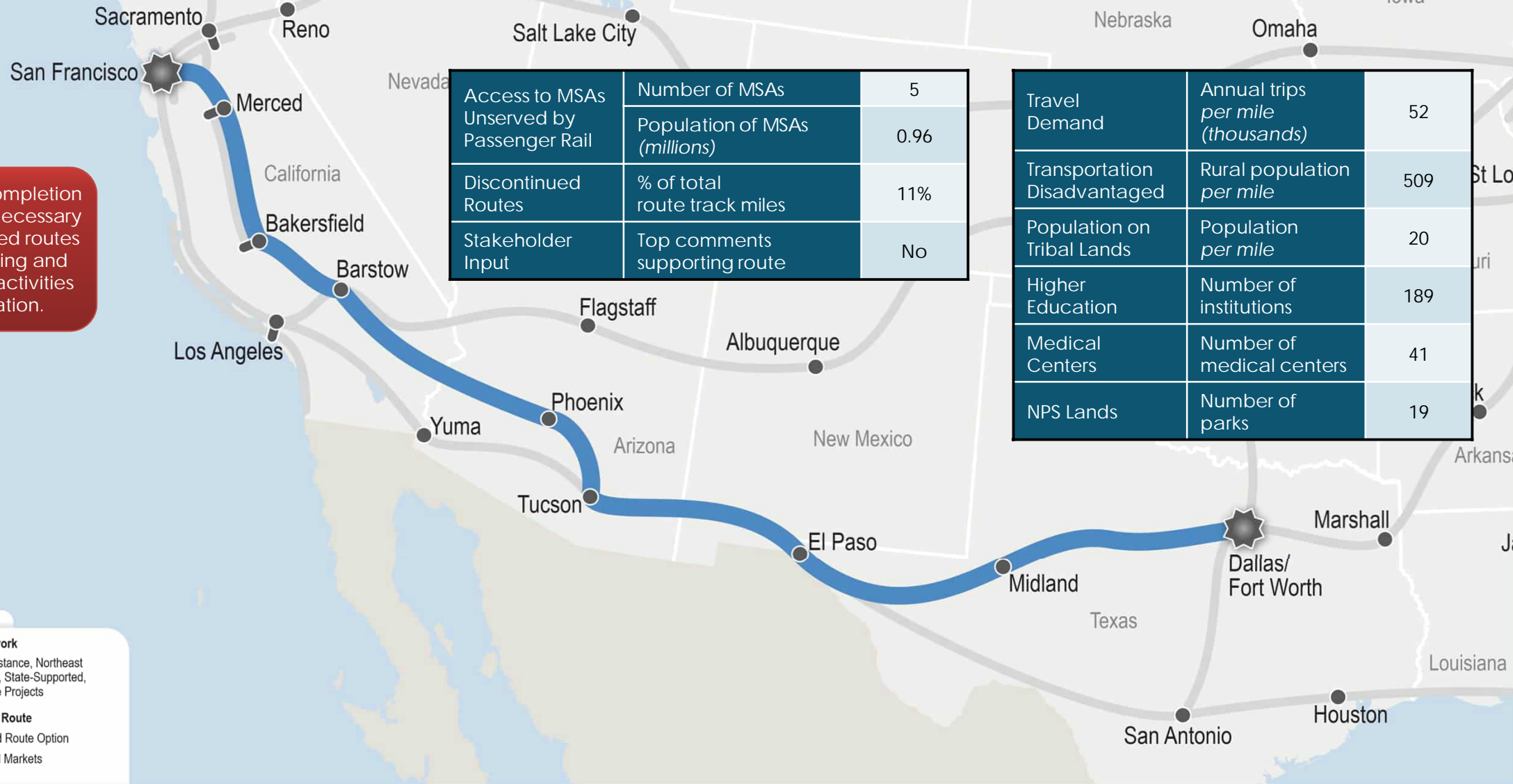
Potential New Route

- Segments Shared by All Route Options
- Segments for Optional Alignment
- Selected Route Option
- Terminal Markets

San Francisco – Dallas/Fort Worth

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.



Legend

Baseline Network

— Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

— Selected Route Option

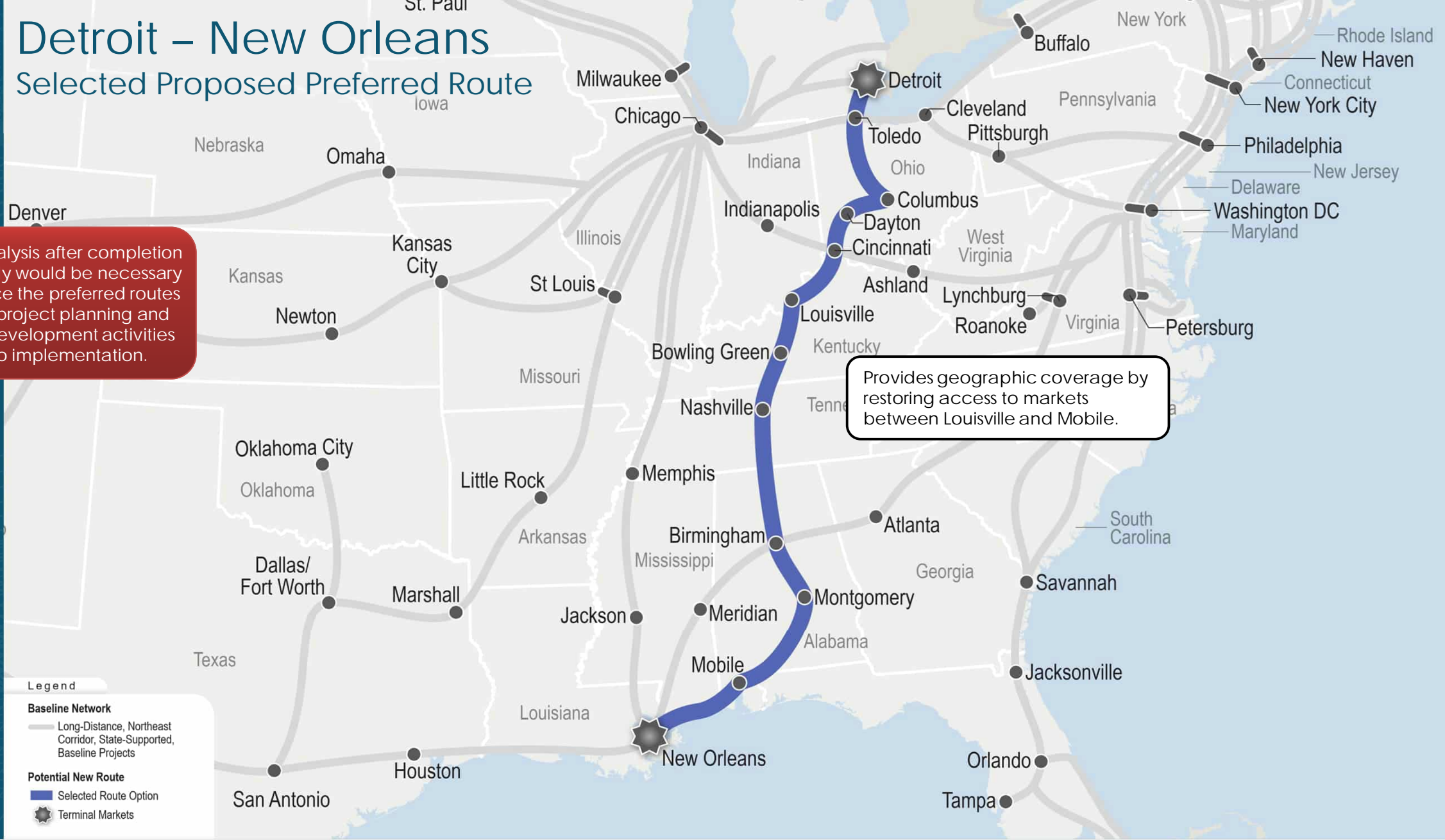
★ Terminal Markets

Detroit – New Orleans

Selected Proposed Preferred Route

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Provides geographic coverage by restoring access to markets between Louisville and Mobile.



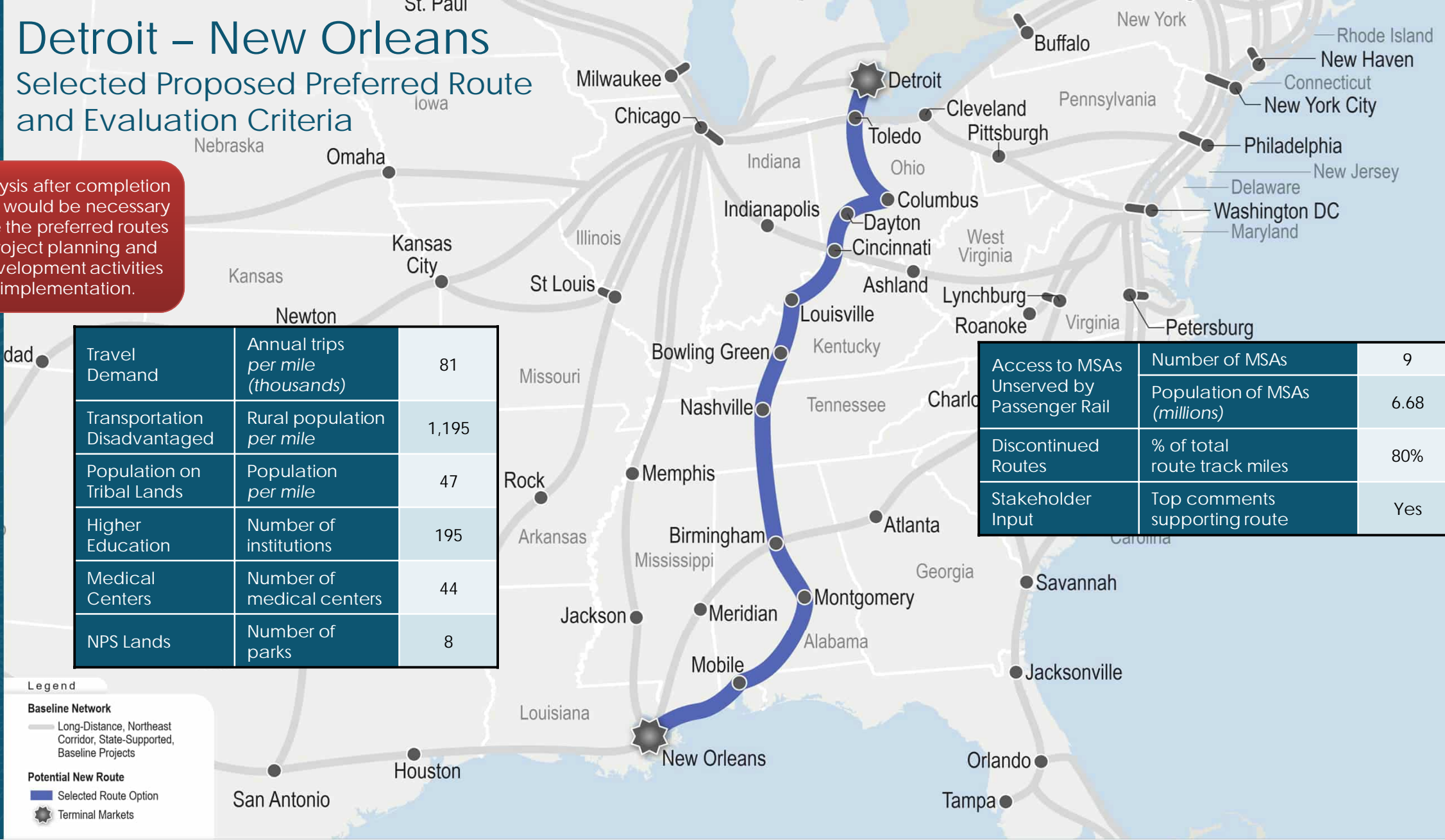
Detroit – New Orleans

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Travel Demand	Annual trips per mile (thousands)	81
Transportation Disadvantaged	Rural population per mile	1,195
Population on Tribal Lands	Population per mile	47
Higher Education	Number of institutions	195
Medical Centers	Number of medical centers	44
NPS Lands	Number of parks	8

Access to MSAs Unserviced by Passenger Rail	Number of MSAs	9
	Population of MSAs (millions)	6.68
Discontinued Routes	% of total route track miles	80%
Stakeholder Input	Top comments supporting route	Yes



Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- █ Selected Route Option
- ★ Terminal Markets

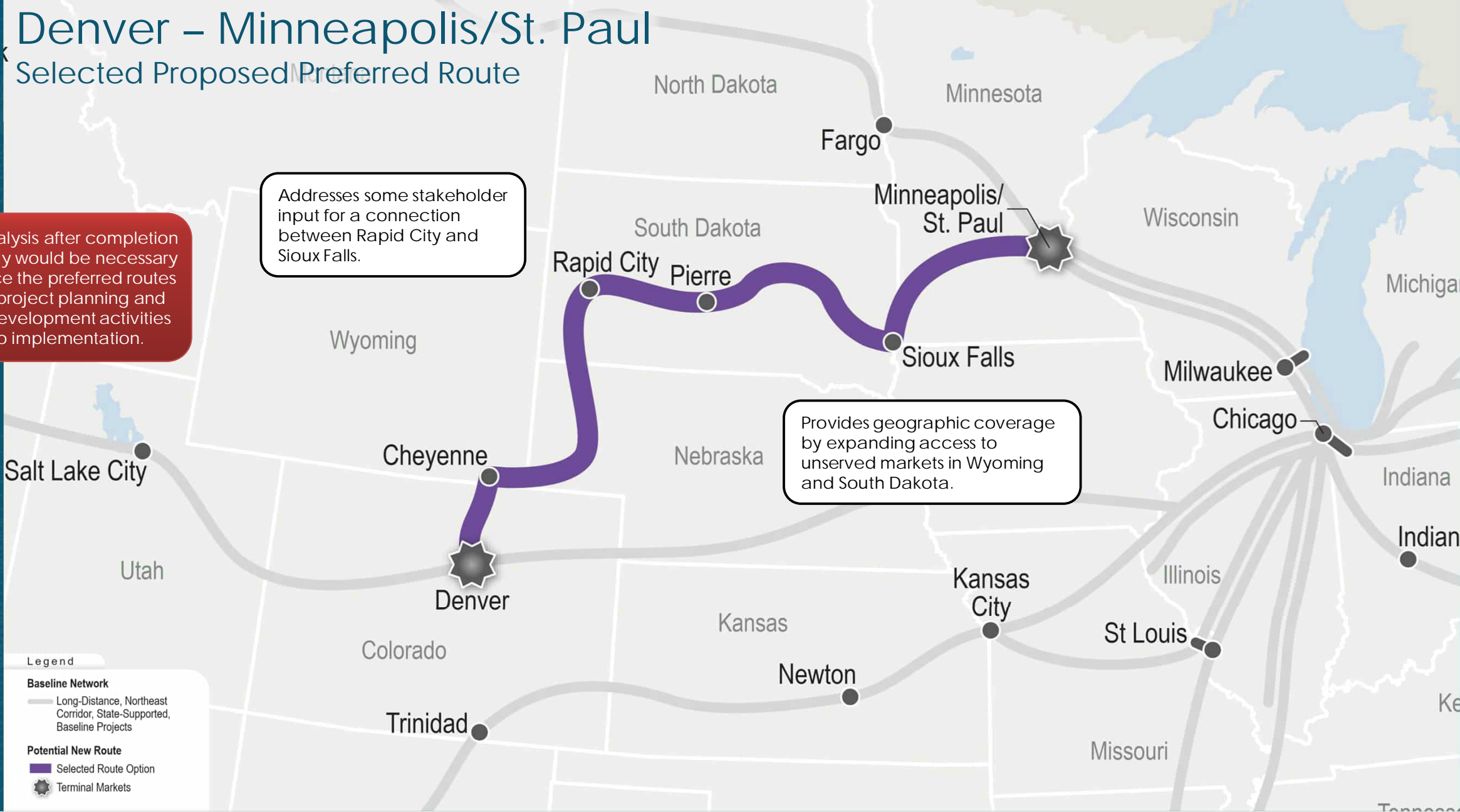
Denver – Minneapolis/St. Paul

Selected Proposed Preferred Route

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Addresses some stakeholder input for a connection between Rapid City and Sioux Falls.

Provides geographic coverage by expanding access to unserved markets in Wyoming and South Dakota.



Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

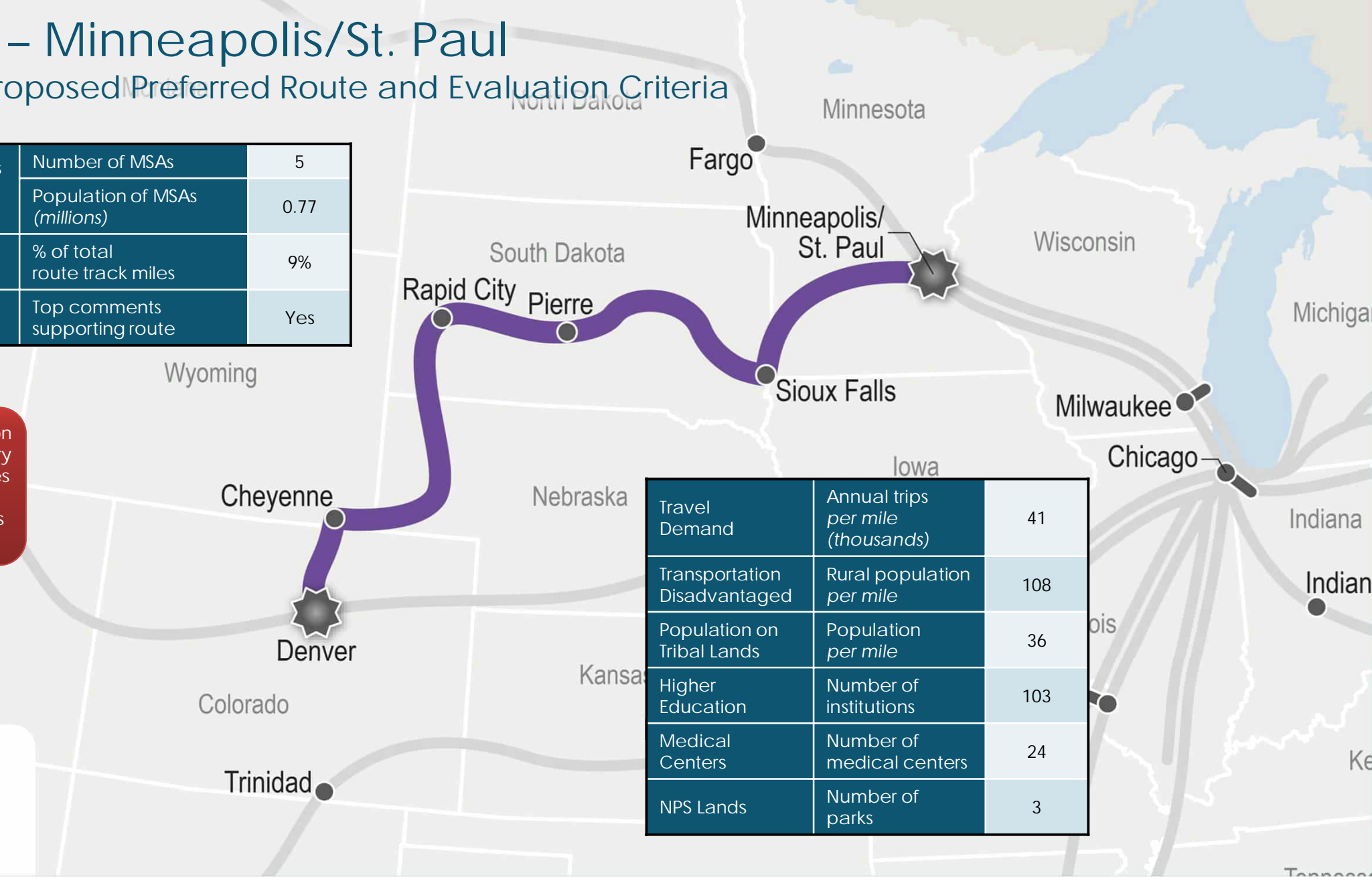
- Selected Route Option
- Terminal Markets

Denver – Minneapolis/St. Paul

Selected Proposed Preferred Route and Evaluation Criteria

Access to MSAs Unerved by Passenger Rail	Number of MSAs	5
	Population of MSAs (millions)	0.77
Discontinued Routes	% of total route track miles	9%
Stakeholder Input	Top comments supporting route	Yes

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.



Travel Demand	Annual trips per mile (thousands)	41
Transportation Disadvantaged	Rural population per mile	108
Population on Tribal Lands	Population per mile	36
Higher Education	Number of institutions	103
Medical Centers	Number of medical centers	24
NPS Lands	Number of parks	3

Legend

Baseline Network
 — Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

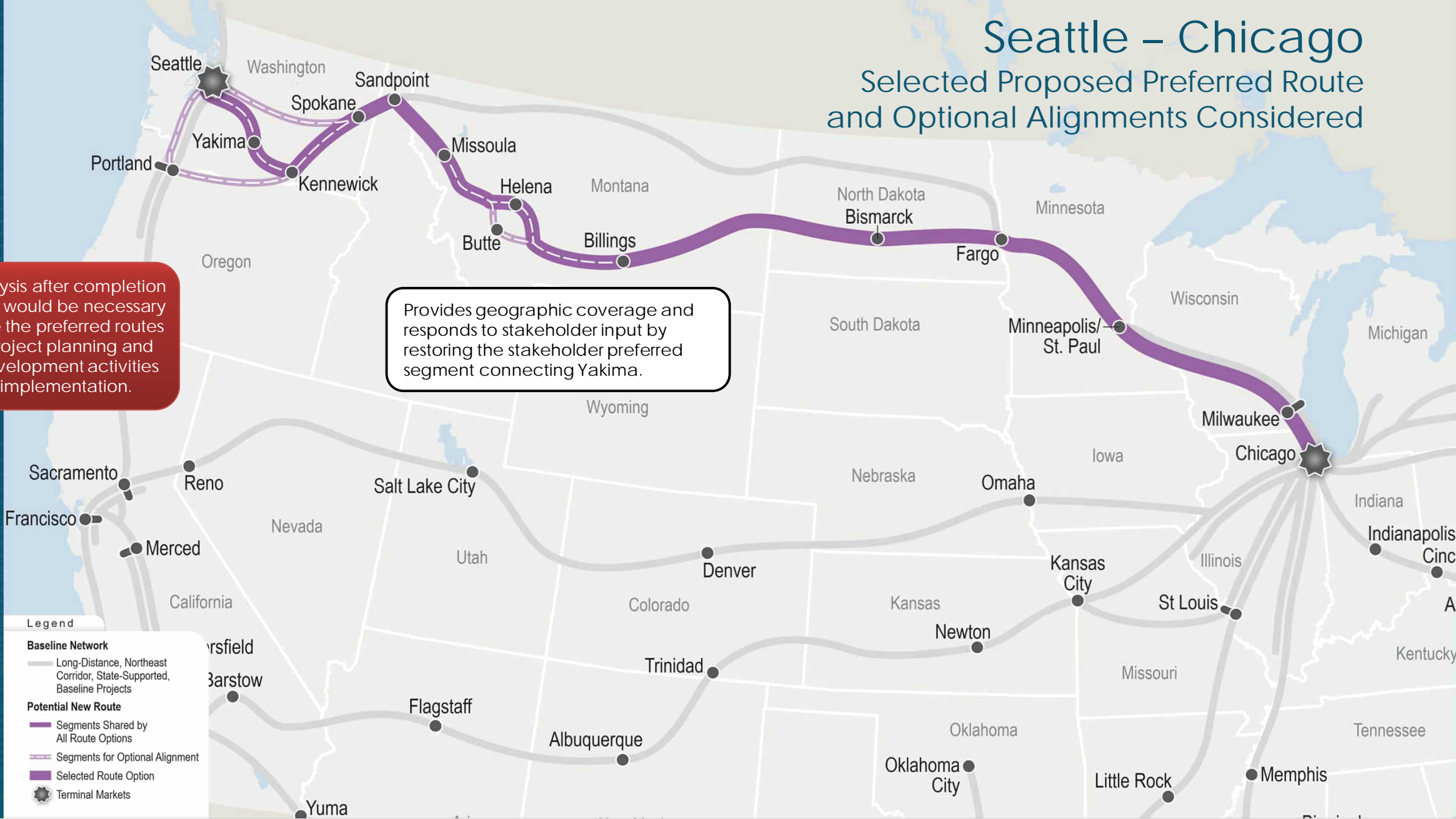
Potential New Route
 — Selected Route Option
 * Terminal Markets

Seattle – Chicago

Selected Proposed Preferred Route and Optional Alignments Considered

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

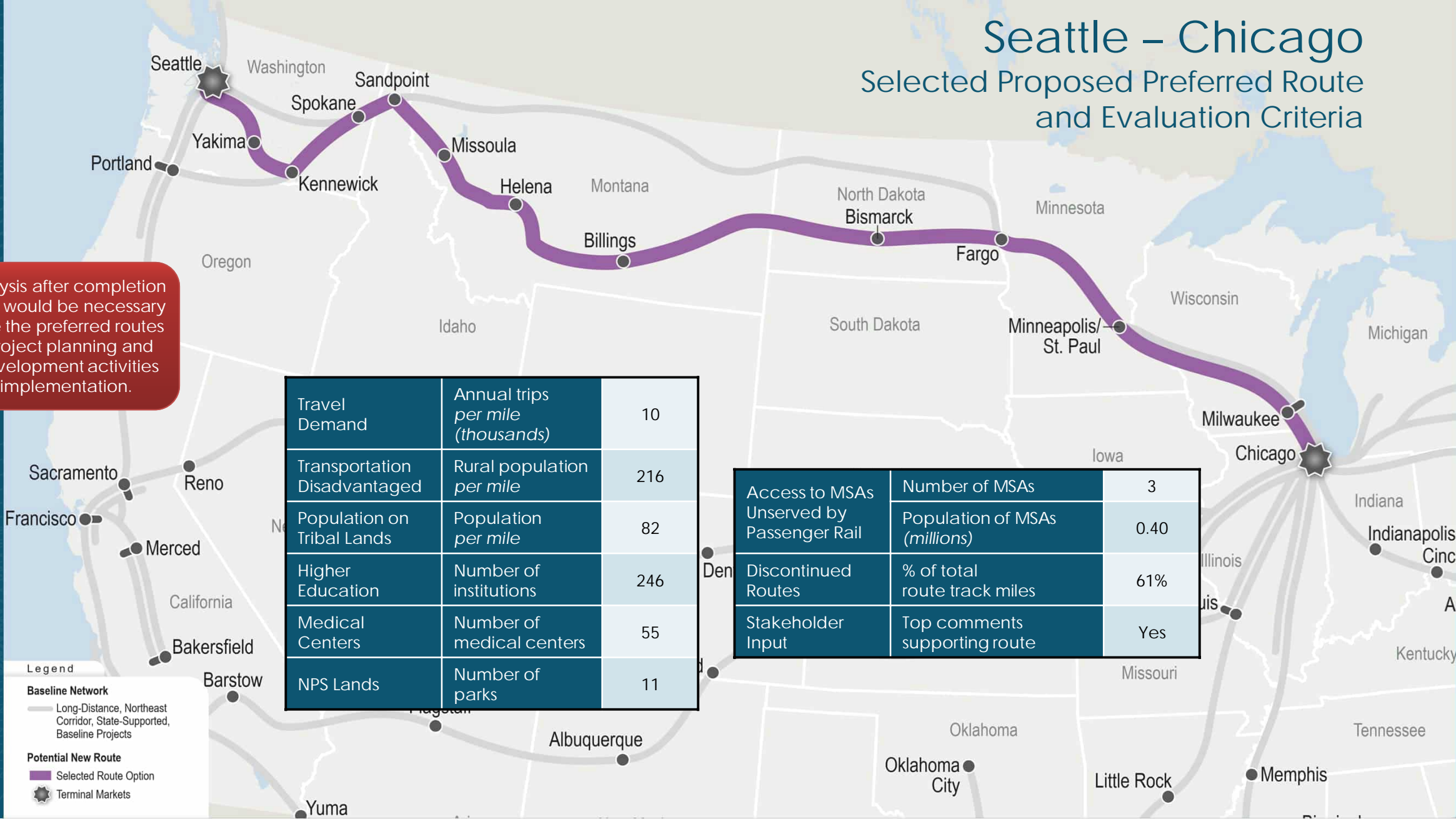
Provides geographic coverage and responds to stakeholder input by restoring the stakeholder preferred segment connecting Yakima.



Seattle – Chicago

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.



Travel Demand	Annual trips per mile (thousands)	10
Transportation Disadvantaged	Rural population per mile	216
Population on Tribal Lands	Population per mile	82
Higher Education	Number of institutions	246
Medical Centers	Number of medical centers	55
NPS Lands	Number of parks	11

Access to MSAs Unserved by Passenger Rail	Number of MSAs	3
	Population of MSAs (millions)	0.40
Discontinued Routes	% of total route track miles	61%
Stakeholder Input	Top comments supporting route	Yes

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Selected Route Option
- Terminal Markets

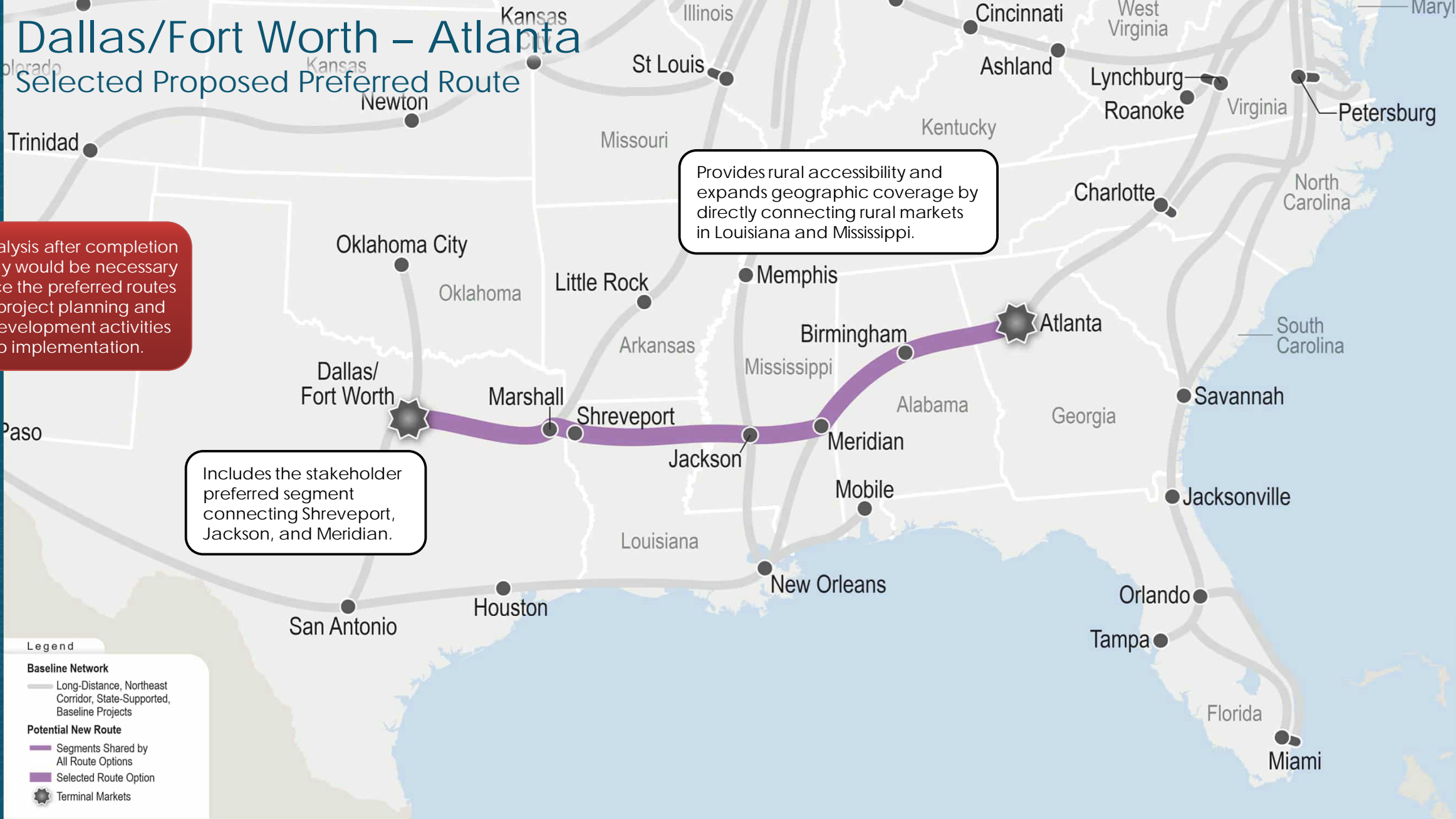
Dallas/Fort Worth – Atlanta

Selected Proposed Preferred Route

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Provides rural accessibility and expands geographic coverage by directly connecting rural markets in Louisiana and Mississippi.

Includes the stakeholder preferred segment connecting Shreveport, Jackson, and Meridian.



Legend

Baseline Network

— Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

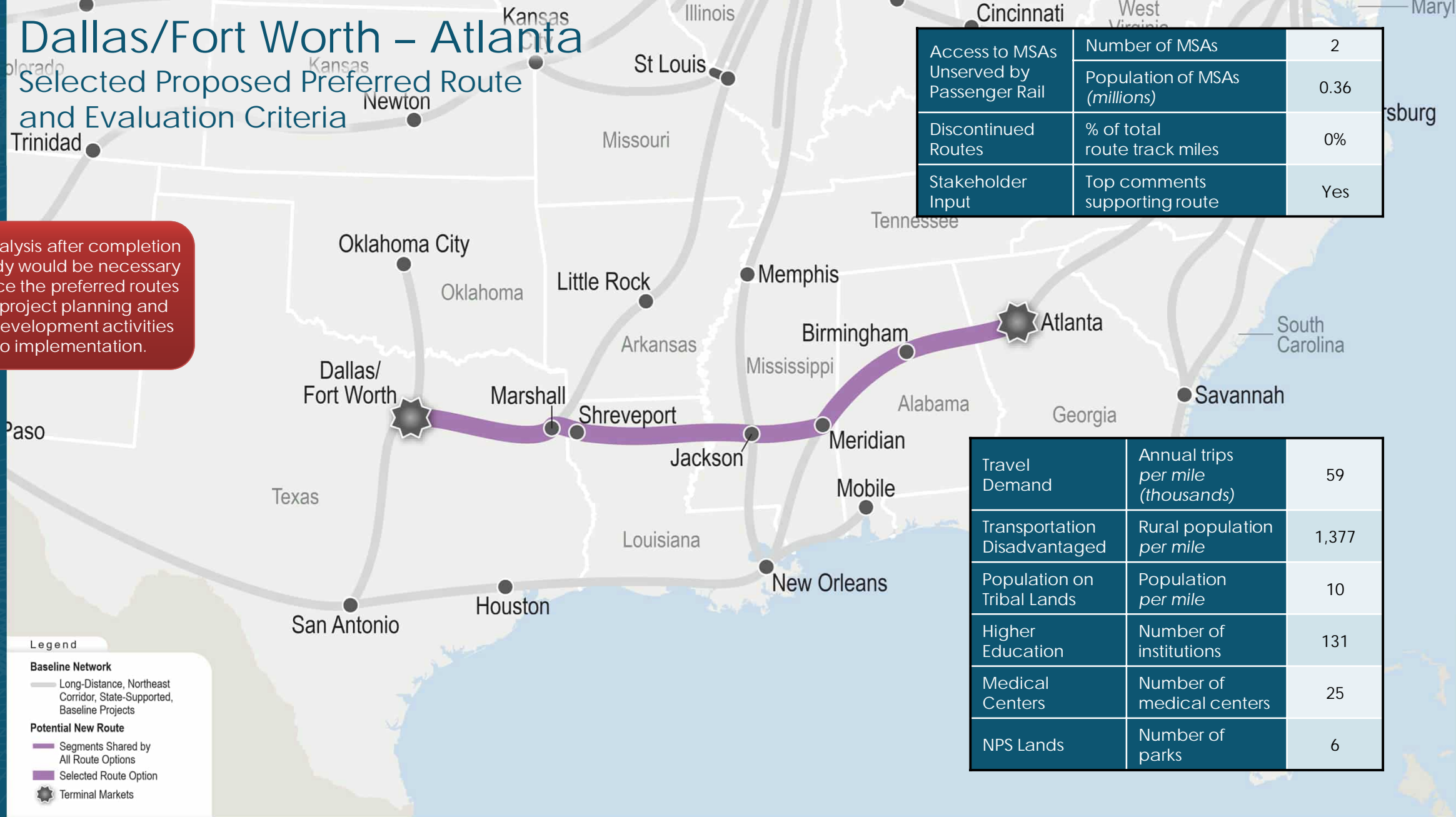
- Segments Shared by All Route Options
- Selected Route Option
- ★ Terminal Markets

Dallas/Fort Worth – Atlanta

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Access to MSAs Unserved by Passenger Rail	Number of MSAs	2
	Population of MSAs (millions)	0.36
Discontinued Routes	% of total route track miles	0%
Stakeholder Input	Top comments supporting route	Yes



Legend

Baseline Network

— Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Segments Shared by All Route Options
- Selected Route Option
- ☼ Terminal Markets

Travel Demand	Annual trips per mile (thousands)	59
Transportation Disadvantaged	Rural population per mile	1,377
Population on Tribal Lands	Population per mile	10
Higher Education	Number of institutions	131
Medical Centers	Number of medical centers	25
NPS Lands	Number of parks	6

El Paso – Billings

Selected Proposed Preferred Route and Optional Alignments Considered

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Best addresses the evaluation criteria for travel demand, rural accessibility, and geographic coverage.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

- Segments Shared by All Route Options
- Segments for Optional Alignment
- Selected Route Option
- Terminal Markets

El Paso – Billings

Selected Proposed Preferred Route and Evaluation Criteria

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities prior to implementation.

Access to MSAs Unerved by Passenger Rail	Number of MSAs	3
	Population of MSAs (millions)	0.36
Discontinued Routes	% of total route track miles	2%
Stakeholder Input	Top comments supporting route	Yes

Travel Demand	Annual trips per mile (thousands)	46
Transportation Disadvantaged	Rural population per mile	151
Population on Tribal Lands	Population per mile	44
Higher Education	Number of institutions	65
Medical Centers	Number of medical centers	25
NPS Lands	Number of parks	11

Legend

Baseline Network

— Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Potential New Route

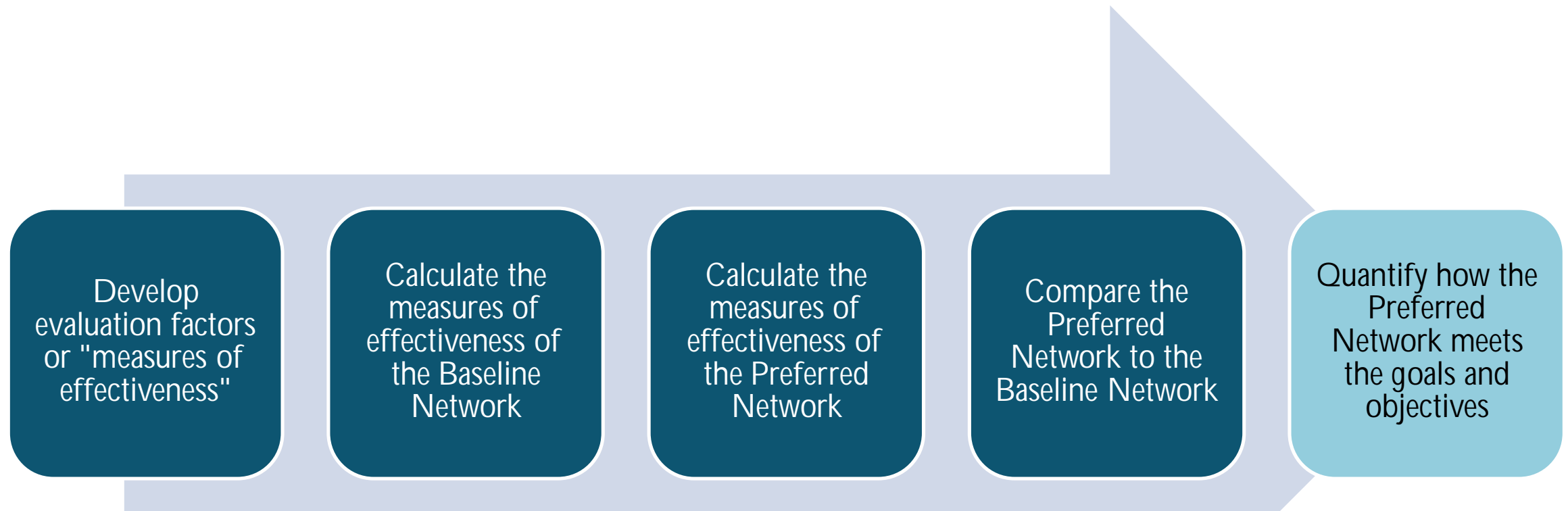
— Selected Route Option

★ Terminal Markets

COMPARISON OF PREFERRED AND BASELINE NETWORKS

Analyze the Preferred Network

Compare the Preferred Network to the Baseline Network



Measures of Effectiveness

- Feedback on the evaluation factors from stakeholders informed the development of goals and objectives
- Goals and Objectives:
 - Connectivity
 - ✓ Increase Passenger Access to the National Passenger Rail Network
 - ✓ Improve passenger rail geographic coverage
 - Link and Serve Large and Small Communities
 - ✓ Increase long-distance passenger rail connections to small communities
 - Economic and Social Well-Being of Rural Areas
 - ✓ Enhance access for historically disadvantaged populations
 - ✓ Enhance access for tribal areas
 - ✓ Enhance rural access to services
- The Project Team developed measures of effectiveness for the goals and objectives to evaluate the Preferred Network

Measures of Effectiveness

Population with access to passenger rail

- 100 most populated Metropolitan Statistical Areas (MSAs)
- Rural areas

Rural population with access to passenger rail

- Transportation and health disadvantaged
- Below the poverty threshold
- Areas of persistent poverty

MSAs served by passenger rail (number and population)

- Discontinued routes
- New segments

Number of passenger rail stations in small communities

Population on tribal lands with access to passenger rail

Number of services connected to passenger rail

- Public/private higher education institutions
- Medical centers
- National parks, recreation areas, & preserves

GOAL: CONNECTIVITY

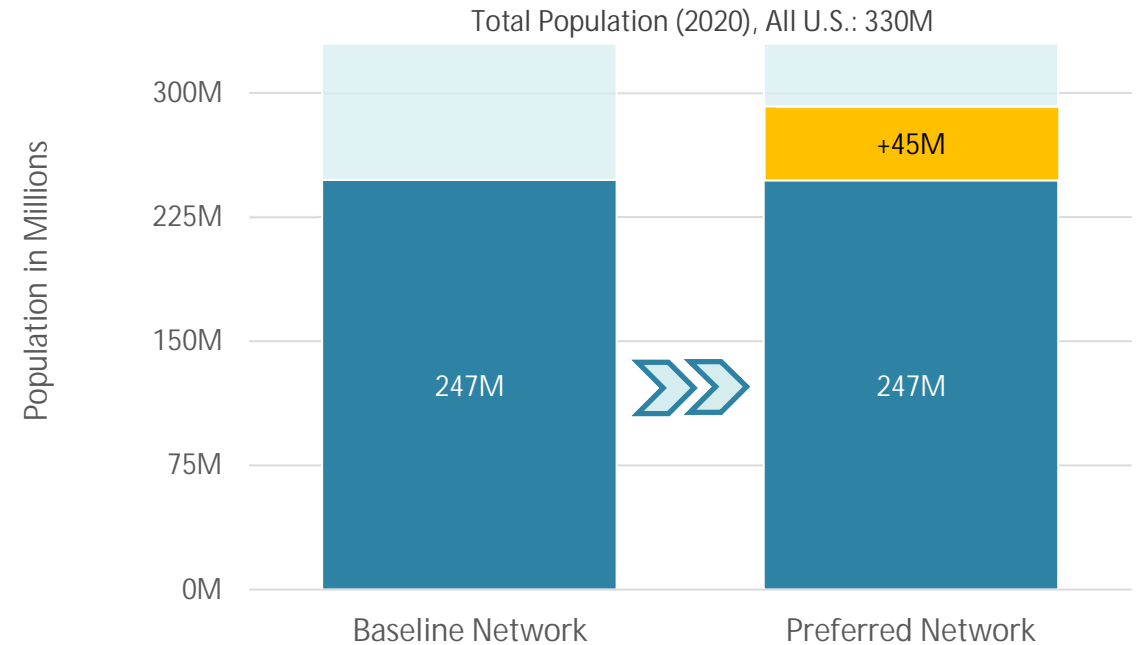
INCREASE PASSENGER ACCESS TO THE NATIONAL PASSENGER RAIL NETWORK

IMPROVE PASSENGER RAIL GEOGRAPHIC COVERAGE

Goal: Connectivity

Objective: Increase Passenger Access to the National Passenger Rail Network

- Scope: Total U.S. Population
- 45 million more people could have access to passenger rail services
- an 18% increase
→ capturing 54% of the previously unserved population



Population of census tracts served by the Baseline Network or Preferred Network. Values exclude Alaska and Hawaii.
Source: U.S. Census Bureau. 2020 Decennial Census (census tracts)

Goal: Connectivity

Objective: Increase Passenger Access to the National Passenger Rail Network

- Scope: Population of the 100 Most Populous MSAs
- 19 million more people could have access to passenger rail services
- a 10% increase
→ capturing 71% of the previously unserved population



Population of census tracts served by the Baseline Network or Preferred Network. Values exclude Alaska and Hawaii. Source: U.S. Census Bureau. 2020 Decennial Census (census tracts and MSAs)

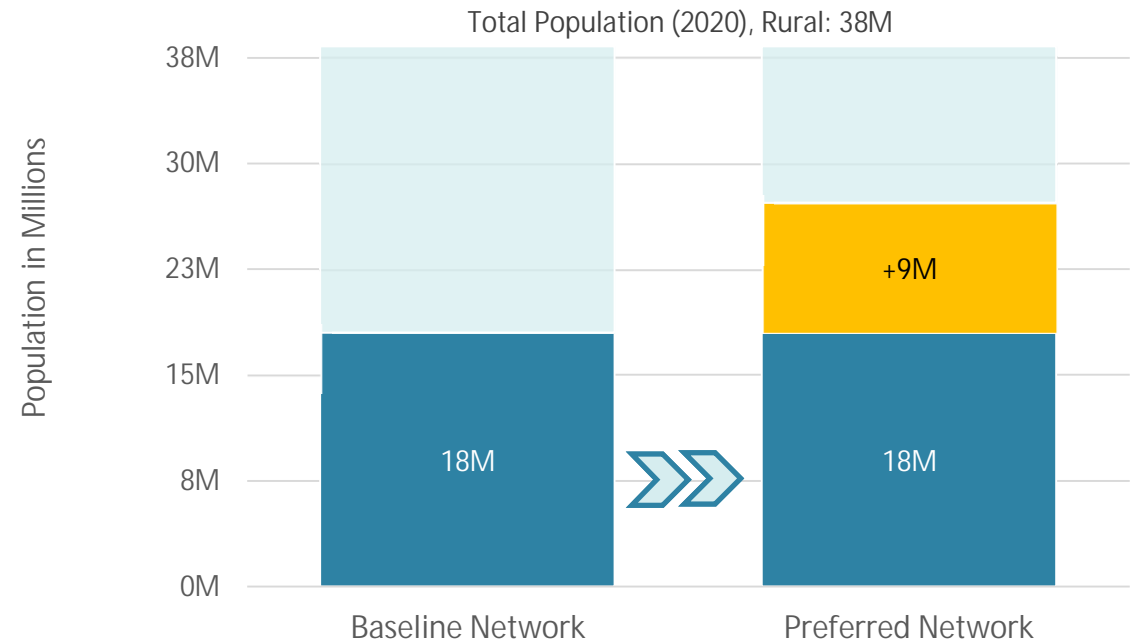
MSA: Metropolitan Statistical Areas – population greater than 50,000

Goal: Connectivity

Objective: Increase Passenger Access to the National Passenger Rail Network

- Scope: U.S Population Outside Urbanized Areas (i.e., Rural)
- 9 million more people could have access to passenger rail services
- a 51% increase
→ capturing 46% of the previously unserved population

Rural: population outside of urbanized areas, located within neither Metropolitan Statistical Areas (MSAs) nor Micropolitan Statistical Areas (MMSAs)



Population of census tracts served by the Baseline Network or Preferred Network. Values exclude Alaska and Hawaii. Source: U.S. Census Bureau. 2020 Decennial Census (census tracts and Urbanized Area boundaries)

Goal: Connectivity

Objective: Improve Passenger Rail Geographic Coverage

- 2 additional states
→ 48 states, as well the District of Columbia, could have access to passenger rail services
- 24 additional congressional districts
→ 431 congressional districts could have access to passenger rail services



46
States

+2
New States

= 48
will have access
to passenger rail



407
Congressional
Districts

+24
Additional
Districts
(6%)

= 431
will have access
to passenger rail

Baseline Network  Preferred Network

States boundaries and congressional districts containing a segment in the Preferred or Baseline Network; values do not include District of Columbia counted separately
Source: U.S. Census Bureau. State and congressional district boundary shapefiles (2022)

Goal: Connectivity

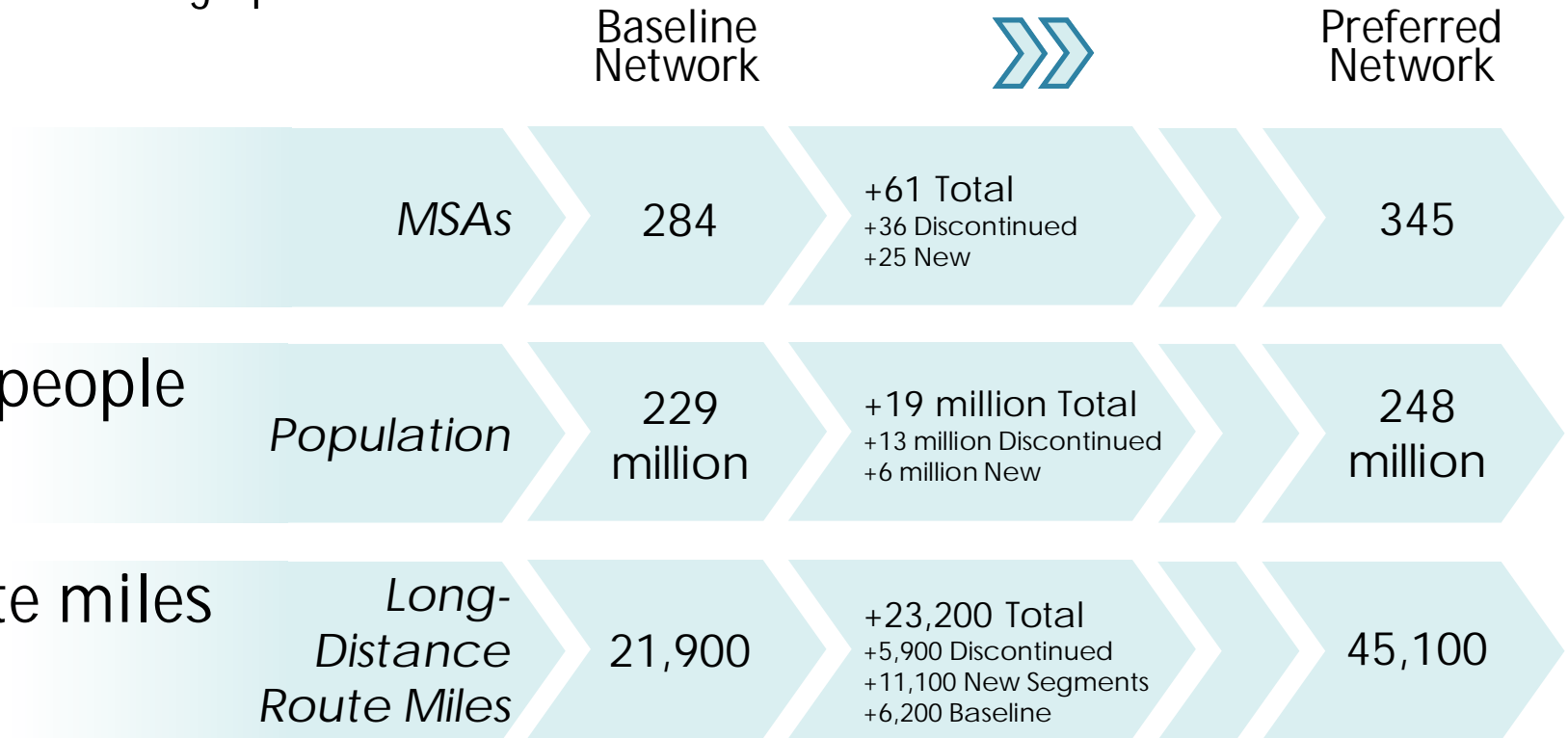
Objective: Improve Passenger Rail Geographic Coverage

- 61 more MSAs
a 21% increase

- 19 million more people
an 8% increase

- 23,200 more route miles
a 106% increase

...could have access to passenger rail service



Goal: Connectivity

Improve Passenger Rail Geographic Coverage

Restored Portions of Discontinued Routes

- Additional 36 MSAs served
- Population: +13 million
- Route Miles: +5,900

New Segments

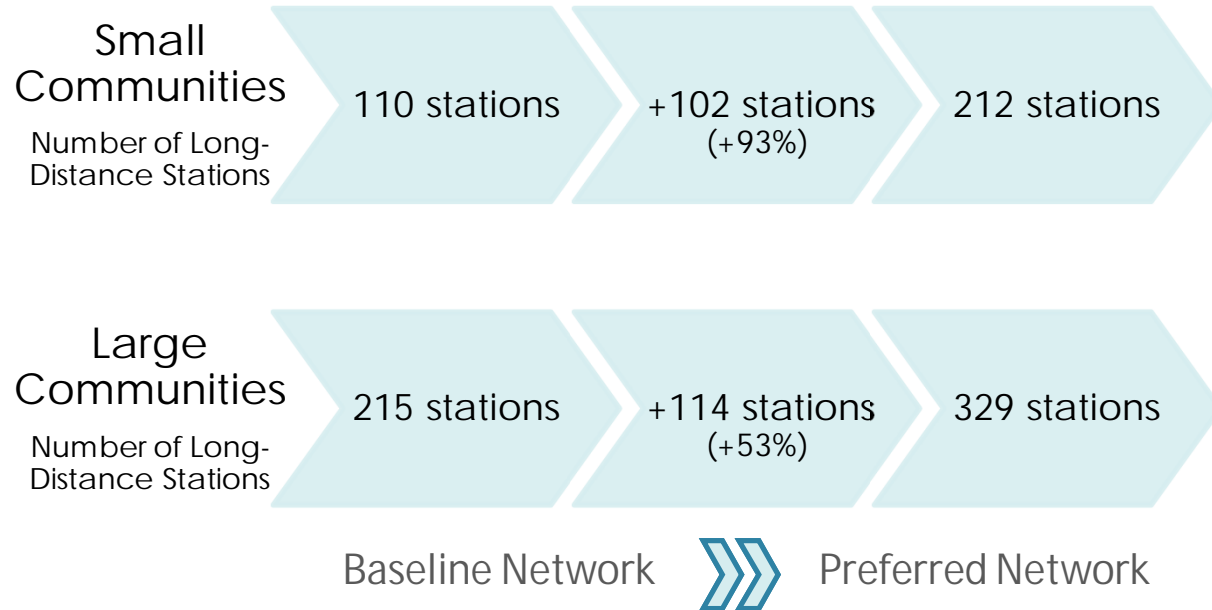
- Additional 25 MSAs served
- Population: +6 million
- Route Miles: +11,100



GOAL: LINK AND SERVE LARGE AND SMALL COMMUNITIES

INCREASE LONG-DISTANCE PASSENGER RAIL
CONNECTIONS TO SMALL COMMUNITIES

Goal: Link and Serve Large and Small Communities



Objective: Increase long-distance passenger rail connections to small communities

- Additional potential station locations on preferred routes could increase the connections to small communities
- 102 more stations in small communities (non-MSA areas)
- a 93% increase

Source: U.S. Census Bureau. 2020 Decennial Census (MSAs)

MSA: Urbanized areas with a minimum population of 50,000

The methodology to identify potential station locations is presented in the section on the approach for development of route service.

Stations in small communities are stations located in non-MSA areas

Stations in large communities are stations located in MSA areas

GOAL: ECONOMIC AND SOCIAL WELL-BEING OF RURAL AREAS

ENHANCE ACCESS FOR HISTORICALLY DISADVANTAGED
POPULATIONS

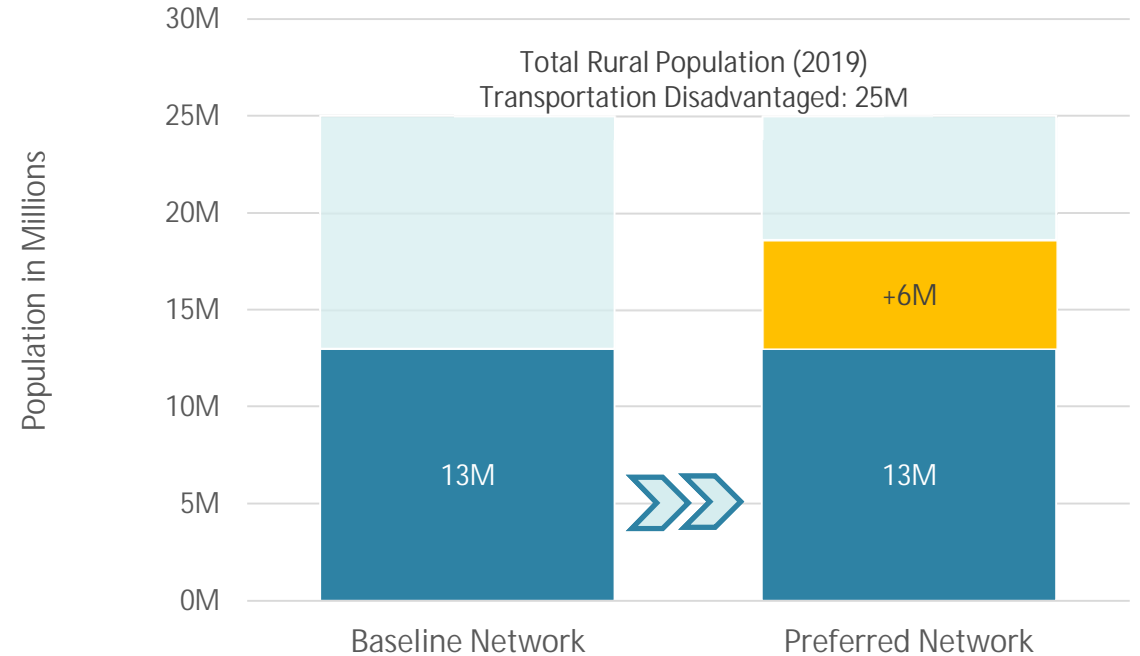
ENHANCE ACCESS FOR TRIBAL AREAS

ENHANCE RURAL ACCESS TO SERVICES

Goal: Economic and Social Well-Being of Rural Areas

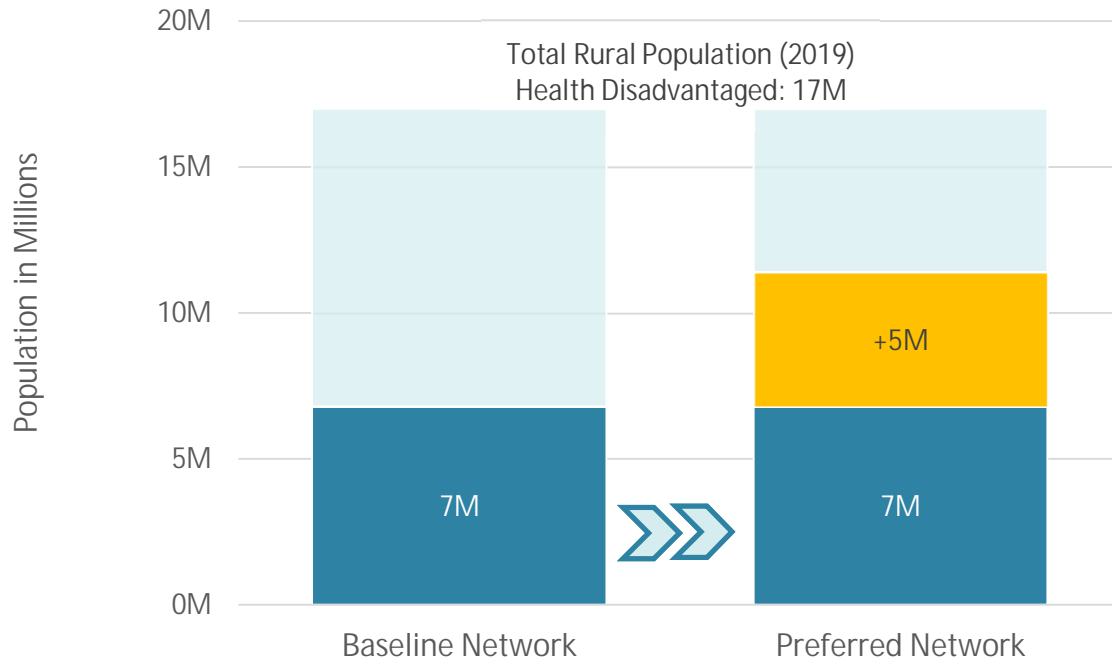
Objective: Enhance access for historically disadvantaged populations

- Scope: Population in rural *Transportation Disadvantaged* Areas (Justice 40)
- 6 million more people could have access to passenger rail services
- a 43% increase
→ capturing 49% of the previously unserved population



Population of census tracts outside urbanized areas served by the Baseline or Preferred Network that are defined as Transportation Disadvantaged based on the U.S. DOT Justice 40 Initiative: ACS Data (2015-2019 5-year estimates, 2010 Census Tract Shapefiles). Values exclude Alaska and Hawaii.
Source: U.S. Census Bureau. 2020 Decennial Census, U.S. Census Bureau. 2020 Urbanized Areas boundaries, U.S. Census Bureau. ACS 2015-2019 5-year estimates (using 2010 census tract boundaries)

Goal: Economic and Social Well-Being of Rural Areas



Objective: Enhance access for historically disadvantaged populations

- Scope: Population in rural *Health Disadvantaged* Areas (Justice 40)
- 5 million more people could have access to passenger rail services
- a 66% increase
→ capturing 44% of the previously unserved population

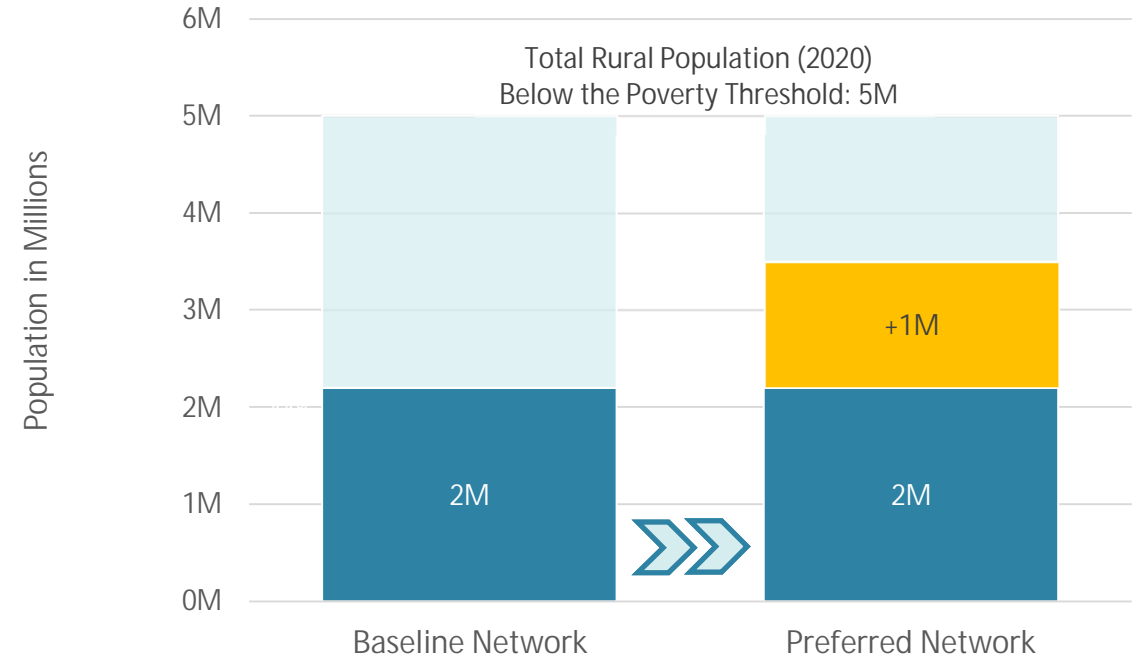
Population of census tracts outside urbanized areas served by the Baseline or Preferred Network that are defined as Health Disadvantaged based on the U.S. DOT Justice 40 Initiative: ACS Data (2015-2019 5-year estimates, 2010 Census Tract Shapefiles). Values exclude Alaska and Hawaii.

Source: U.S. Census Bureau. 2020 Decennial Census, U.S. Census Bureau. 2020 Urbanized Areas boundaries, U.S. Census Bureau. ACS 2015-2019 5-year estimates (using 2010 census tract boundaries)

Goal: Economic and Social Well-Being of Rural Areas

Objective: Enhance access for historically disadvantaged populations

- Scope: Rural Population Living Below the Poverty Threshold (2020)
- 1 million more people could have access to passenger rail services
- a 59% increase
→ capturing 45% of the previously unserved population



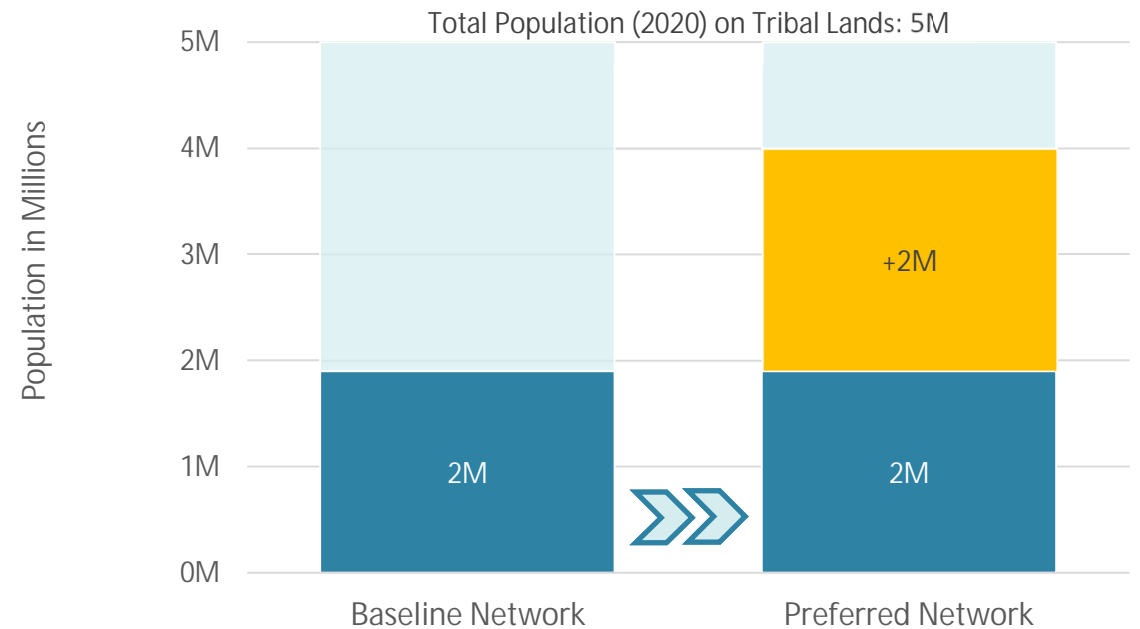
Population of census tracts living below the poverty threshold outside of urbanized areas served by the Baseline Network or Preferred Network. Values exclude Alaska and Hawaii.

Source: U.S. Census Bureau. 2020 Decennial Census, U.S. Census Bureau. 2020 Urbanized Areas boundaries, U.S. Census Bureau
Rural: population outside of urbanized areas

Goal: Economic and Social Well-Being of Rural Areas

Objective: Enhance access for tribal areas

- Scope: Population on U.S. Tribal Lands
- 2 million more people could have access to passenger rail services
- a 112% increase
→ capturing 74% of the previously unserved population



Population in census tracts covered by American Indian Tribal area boundaries served by the Baseline Network or Preferred Network. Values exclude Alaska and Hawaii.

Source: U.S. Census Bureau. 2020 Decennial Census (census tracts), U.S. Census Bureau. American Indian/Native Alaskan/Native Hawaiian Areas boundaries Tribal lands include American Indian and Alaska Native Land, American Indian Tribal Subdivisions, Bureau of Indian Affairs Regional Boundaries, Oklahoma Tribal Statistical Areas

Goal: Economic and Social Well-Being of Rural Areas

Objective: Enhance rural access to services

- 82 more Medical Centers
→ 584 medical centers could have access to passenger rail services
- a 16% increase
- 600 additional higher education institutions
→ 3,300 public and private not-for-profit higher education institutions could have access to passenger rail services
- a 22% increase
- 12 more NPS lands
→ 75 National Parks, Recreation Areas, and Preserves could have access to passenger rail services
- a 19% increase



502
Medical Centers

+82
Additional Medical Centers
(16%)

= 584
will have access to passenger rail



2,700
Public/Private Higher Education

+600
Additional Institutions
(22%)

= 3300
will have access to passenger rail



63
National Parks, Recreation Areas, and Preserves

+12
Additional Parks
(19%)

= 75
will have access to passenger rail

Baseline Network



Preferred Network

Values exclude Alaska and Hawaii.

Source: U.S. Census Bureau. 2020 census tract boundaries, U.S. Dept. of Homeland Security 2023 (Locations), Homeland Infrastructure Foundation-Level Data Geoplatform (HIFLD), National Parks Service data created by Land Resources Division 2023

APPROACH FOR DEVELOPMENT OF CONCEPTUAL ROUTE SERVICE

Approach for Development of Route Service



Purpose: Analyze and develop conceptual service concepts for each preferred route to support investment analysis

- ✓ Developed conceptual end-to-end run times for each preferred route to inform conceptual service schedules
- Future Next Step: Develop conceptual service schedules with approximate departure and arrival times for each preferred route to inform cost estimating, and public benefits analysis

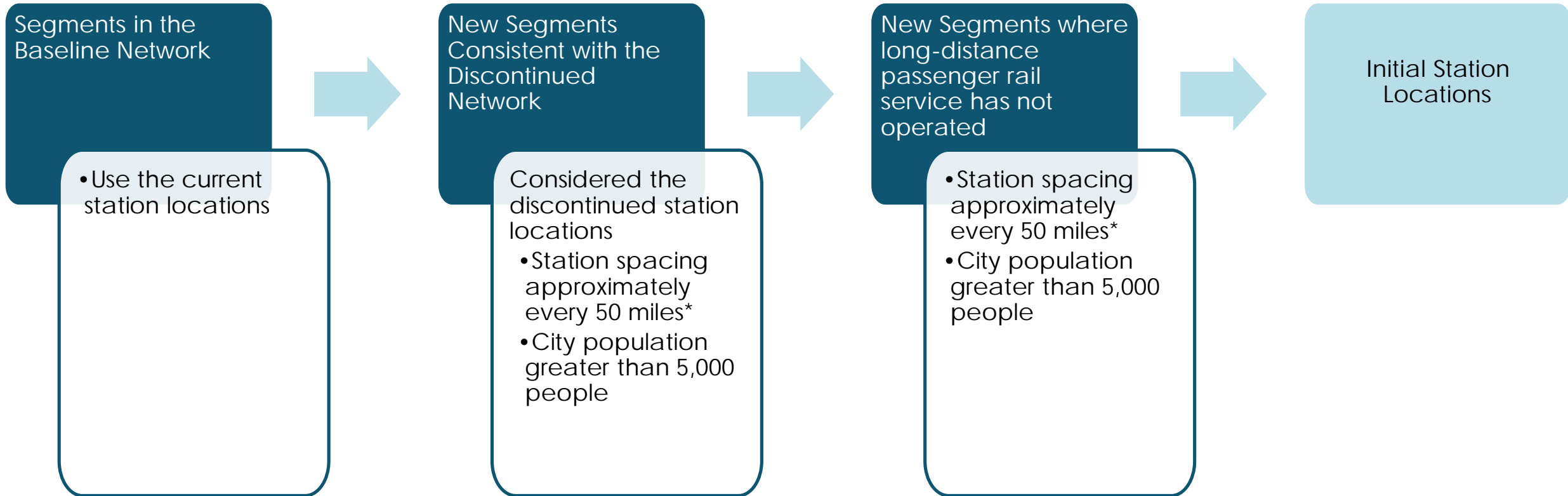
Approach for Development of Route Service



- Develop Conceptual Run Times
 - Identified potential station locations
 - Calculated average speed and dwell times
 - Estimated travel times between stations
- Future Next Step: Develop Conceptual Service Schedules
 - Schedule long-distance service (one train a day in each direction)
 - Serve those MSA pairs that have the highest volume of trips during daytime hours (5 a.m. - 11 p.m.)
 - Support connections between existing routes and preferred routes for key markets

Identification of Potential Station Locations

- This approach provides conceptual run times that will inform conceptual schedules.
- Schedules are not final and are not an FRA proposal for service.



*Based on the average station spacing for fiscal year 2022 Amtrak long-distance service: average of 42 miles east of the Mississippi River, average of 70 miles west of the Mississippi River.

Identification of Potential Station Locations

Overlapping Multiple Existing Long-Distance Routes

- Where a preferred route includes multiple overlapping existing long-distance routes, the service with more stations was adopted.
- Supports conservative approach to identifying station locations

Overlapping Existing State-Supported Routes

- Where a preferred route includes a state-supported route and no overlapping existing long-distance route, not all stations served by the state-supported route were included
- Consistent with existing long-distance operations that overlap state-supported service

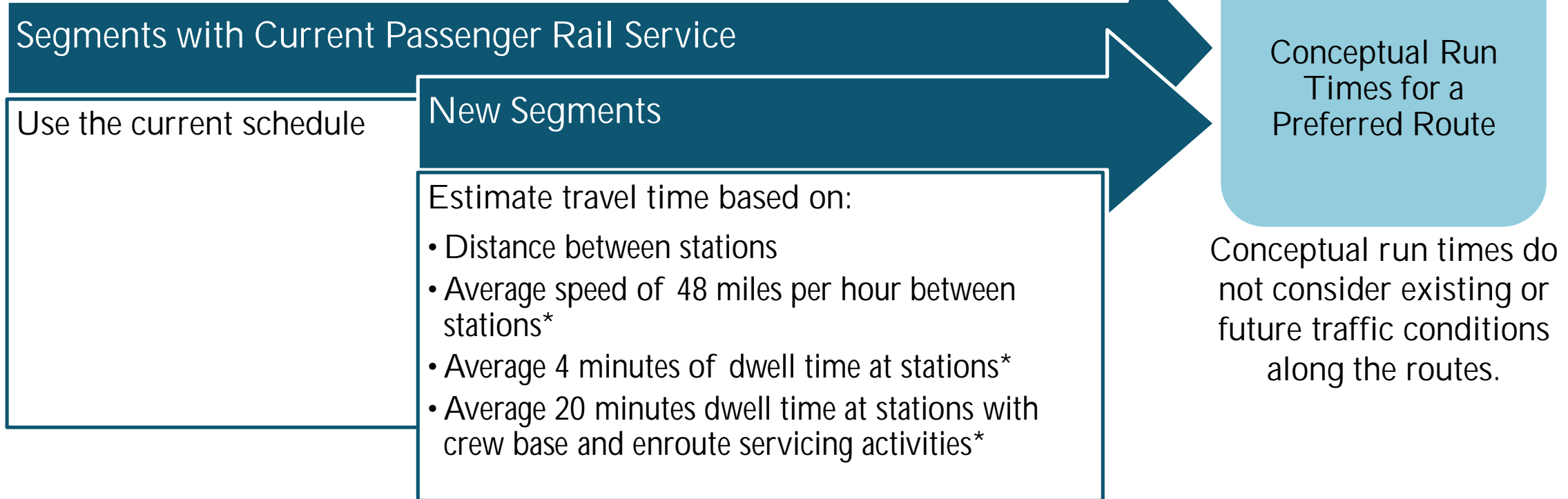
Intersecting Existing Long-Distance Routes

- Where a preferred route intersects an existing route, a station was added to create a connection between the existing route and the preferred route

Note: New stations locations for the preferred routes were not identified for existing long-distance routes or state-supported routes unless required to create a connection between the existing route and the new preferred route.

Estimate Conceptual Run Times

- This approach provides conceptual run times that will inform conceptual schedules
- Schedules are not final and are not an FRA proposal for service



*Based on the average for fiscal year 2022 Amtrak long-distance service.

Chicago – Miami

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 36 hours
Route length	1,529 miles
Restored service	<ul style="list-style-type: none"> • Louisville, KY • Bowling Green, KY • Nashville, TN
New service	<ul style="list-style-type: none"> • Columbus, IN • Chattanooga, TN • Macon, GA

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Chicago – Miami
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- ⊕ New

Scheduled run time for northbound or eastbound service.

Chicago – Miami

Proposed Preferred Route and Select Station Locations

Conceptual run times are intended to support network analysis and do not consider existing or future traffic conditions along the route.

Preferred Route
 approx. 36 hours
 1 seat ride

Existing Route(s)
 46 hours, 55 minutes
 2 seat ride: Capitol Limited, Silver Star

Chicago to Miami
 Time Savings: approx. 11 hours

Legend

Baseline Network

— Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

— Preferred Route: Chicago – Miami
 — Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- ⊕ New

Dallas/Fort Worth – Miami

Proposed Preferred Route and Select Station Locations



Preferred Route Operating Statistics	
Scheduled run time	approx. 36 hours
Route length	1,498 miles
Restored service	<ul style="list-style-type: none"> Pensacola, FL Tallahassee, FL
New service	<ul style="list-style-type: none"> Shreveport, LA Baton Rouge, LA Daytona Beach, FL Palm Bay, FL

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Dallas/Fort Worth – Miami
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- New

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Denver – Houston

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 26 hours
Route length	1,096 miles
Restored service	<ul style="list-style-type: none"> • Bryan, TX • Amarillo, TX
New service	<ul style="list-style-type: none"> • Wichita Falls, TX • Pueblo, CO • Colorado Springs, CO

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Denver – Houston
- Preferred Routes

Stations in Cities with Populations Over 50k

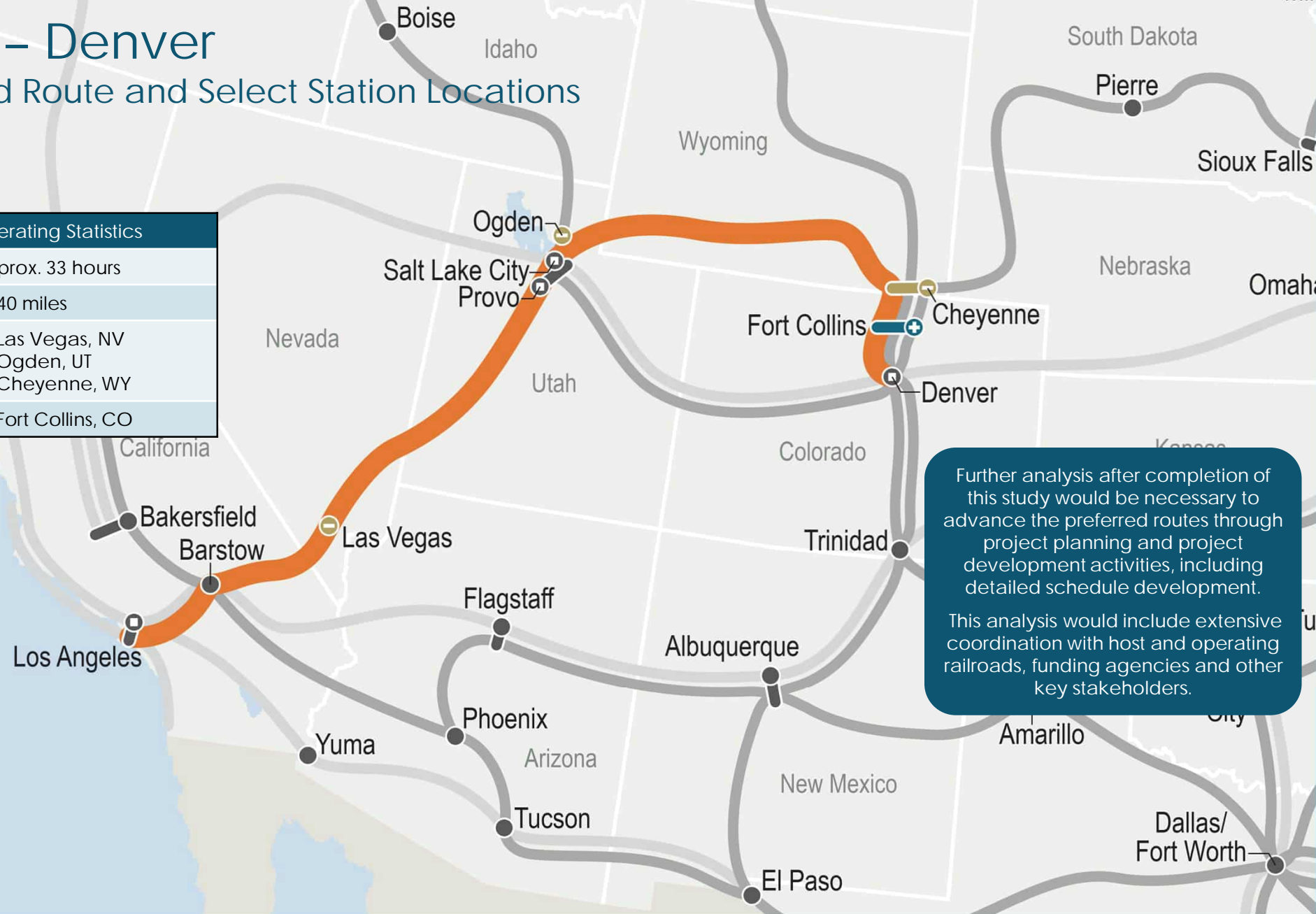
- Existing
- Discontinued
- New

Scheduled run time for northbound or eastbound service.

Los Angeles – Denver

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 33 hours
Route length	1,440 miles
Restored service	<ul style="list-style-type: none"> Las Vegas, NV Ogden, UT Cheyenne, WY
New service	<ul style="list-style-type: none"> Fort Collins, CO



Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development. This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network
 — Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes
 — Preferred Route: Los Angeles – Denver
 — Preferred Routes

Stations in Cities with Populations Over 50k
 ○ Existing
 ○/ Discontinued
 ⊕ New

Phoenix – Minneapolis/St. Paul

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 48 hours
Route length	2,186 miles
Restored service	<ul style="list-style-type: none"> Phoenix, AZ Amarillo, TX Wichita, KS
New service	<ul style="list-style-type: none"> Sioux City, IA Sioux Falls, SD

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Phoenix – Minneapolis/St. Paul
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- New

Scheduled run time for northbound or eastbound service.

Dallas/Fort Worth – New York

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 45 hours
Route length	1,854 miles
Restored service	<ul style="list-style-type: none"> • Terre Haute, IN • Dayton, OH • Springfield, OH • Columbus, OH
New service	<ul style="list-style-type: none"> • Tulsa, OK • Springfield, MO

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Dallas/Fort Worth – New York
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- New



Scheduled run time for northbound or eastbound service.

Dallas/Fort Worth – New York

Proposed Preferred Route and Select Station Locations

Conceptual run times are intended to support network analysis and do not consider existing or future traffic conditions along the route.

Existing Route(s)
17 hours, 55 minutes
2 seat ride: Bus, Capitol Limited

Preferred Route
approx. 11 hours
1 seat ride

Indianapolis to Pittsburgh
 Time Savings: approx. 7 hours

Legend

Baseline Network
 — Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes
 — Preferred Route: Dallas/Fort Worth – New York
 — Preferred Routes

Stations in Cities with Populations Over 50k
 ○ Existing
 ● Discontinued
 ⊕ New

Scheduled run time for northbound or eastbound service.

Houston – New York

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 44 hours
Route length	1,840 miles
Restored service	<ul style="list-style-type: none"> • Montgomery, AL
New service	<ul style="list-style-type: none"> • Auburn, AL • Chattanooga, TN • Knoxville, TN • Johnson City, TN



Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Houston – New York
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- ⊕ New

Scheduled run time for northbound or eastbound service.

Houston – New York

Proposed Preferred Route and Select Station Locations

Conceptual run times are intended to support network analysis and do not consider existing or future traffic conditions along the route.

Atlanta to Houston
 Time Savings:
 approx. 13 hours

Existing Route(s)
 34 hours, 10 minutes
 2 seat ride: Crescent, Sunset Limited

Preferred Route
 Approx 21 hours.
 1 seat ride

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Houston – New York
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- New

Seattle - Denver

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 40 hours
Route length	1,671 miles
Restored service	<ul style="list-style-type: none"> Boise, ID Ogden, UT
New Service	<ul style="list-style-type: none"> n/a

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

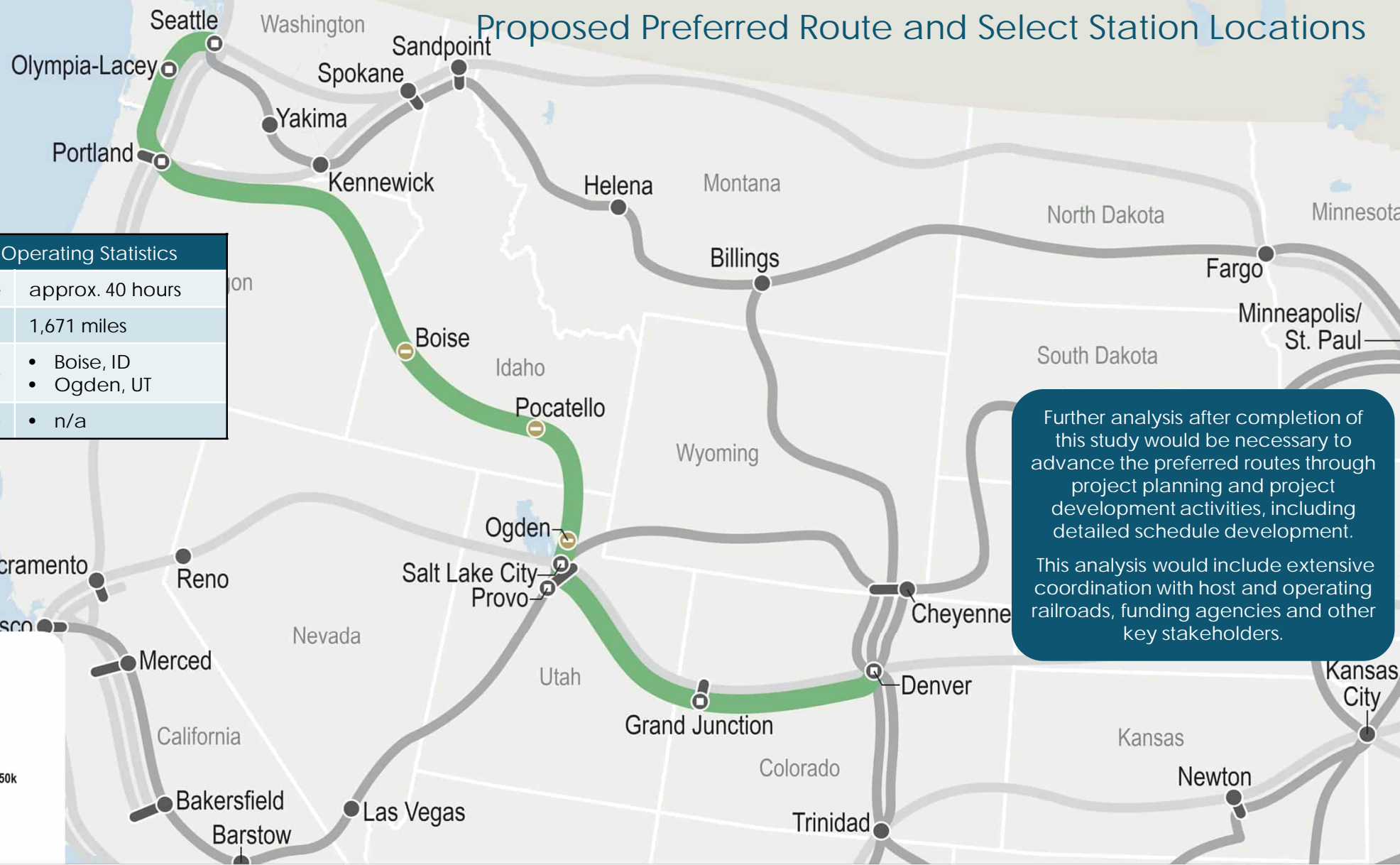
- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Seattle - Denver
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- New



Scheduled run time for northbound or eastbound service.

Seattle - Denver

Proposed Preferred Route and Select Station Locations

Conceptual run times are intended to support network analysis and do not consider existing or future traffic conditions along the route.

Existing Route(s)
 55 hours, 48 minutes
 2 seat ride: Coast Starlight, California Zephyr

Preferred Route
 approx. 40 hours
 1 seat ride

Seattle to Denver
 Time Savings:
 approx. 16 hours

- Legend**
- Baseline Network**
 - Long-Distance, Northeast Corridor, State-Supported, Baseline Projects
 - Preferred Routes**
 - Preferred Route: Seattle - Denver
 - Preferred Routes
 - Stations in Cities with Populations Over 50k**
 - Existing
 - Discontinued
 - New



San Antonio – Minneapolis/St. Paul

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 32 hours
Route length	1,572 miles
Restored service	• n/a
New service	• Tulsa, OK • Des Moines, IA

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: San Antonio – Minneapolis/St. Paul
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- New

San Antonio – Minneapolis/St. Paul

Proposed Preferred Route and Select Station Locations

Conceptual run times are intended to support network analysis and do not consider existing or future traffic conditions along the route.

Kansas City to Minneapolis/St. Paul

Time Savings: approx. 12 hours

San Antonio to Kansas City

Time Savings: approx. 11 hours

Preferred Route	
approx. 11 hours	
1 seat ride	

Existing Route(s)	
22 hours, 57 minutes	
2 seat ride: Southwest Chief, Thruway Bus	

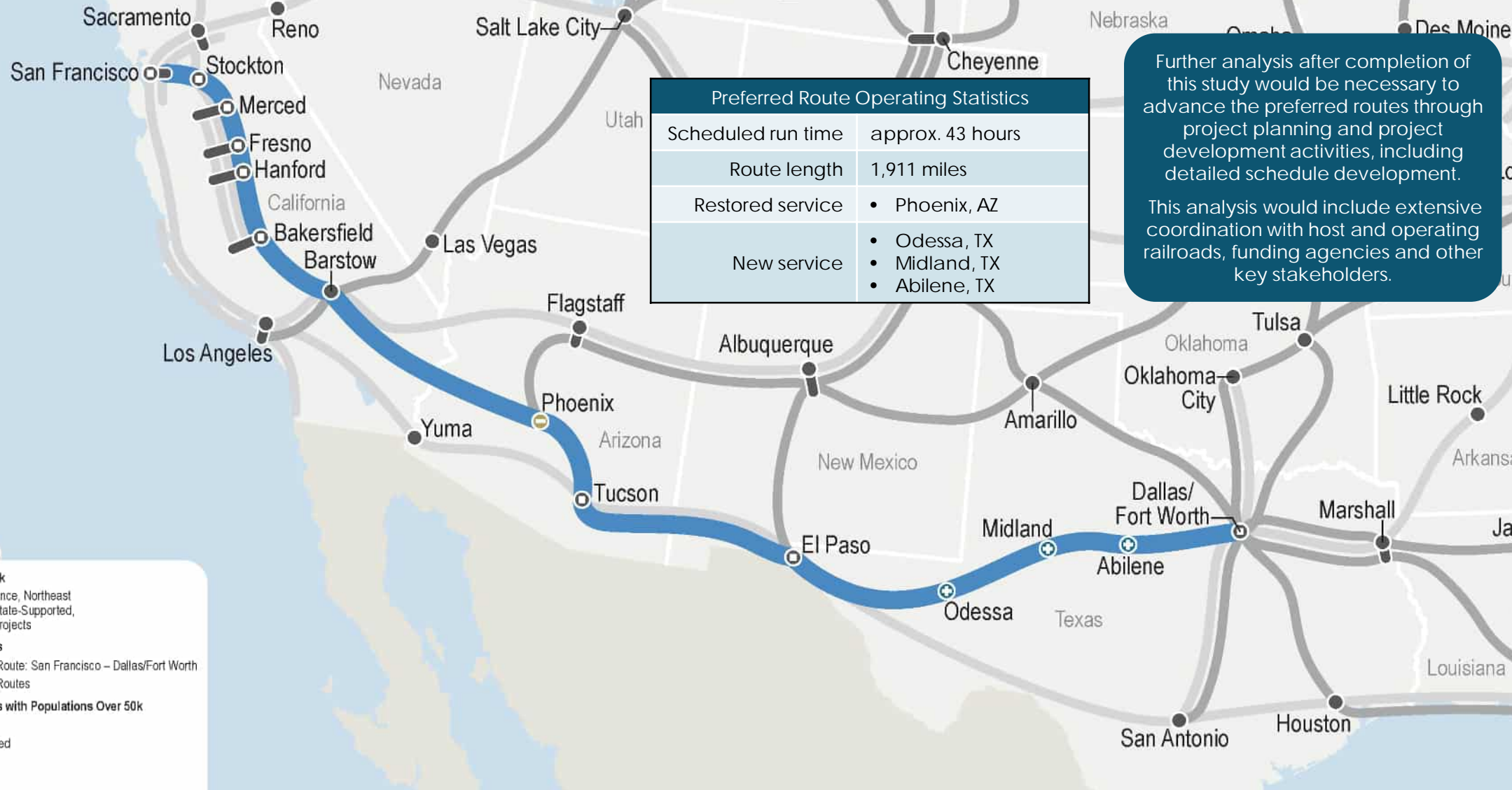
Preferred Route	
approx. 20 hours	
1 seat ride	

Existing Route(s)	
30 hours, 50 minutes	
2 seat ride: Texas Eagle, Missouri River Runner	

- Legend**
- Baseline Network**
 - Long-Distance, Northeast Corridor, State-Supported, Baseline Projects
 - Preferred Routes**
 - Preferred Route: San Antonio – Minneapolis/St. Paul
 - Preferred Routes
 - Stations in Cities with Populations Over 50k**
 - Existing
 - Discontinued
 - New

San Francisco – Dallas/Fort Worth

Proposed Preferred Route and Select Station Locations



Legend

Baseline Network

— Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

— Preferred Route: San Francisco – Dallas/Fort Worth
 — Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- New

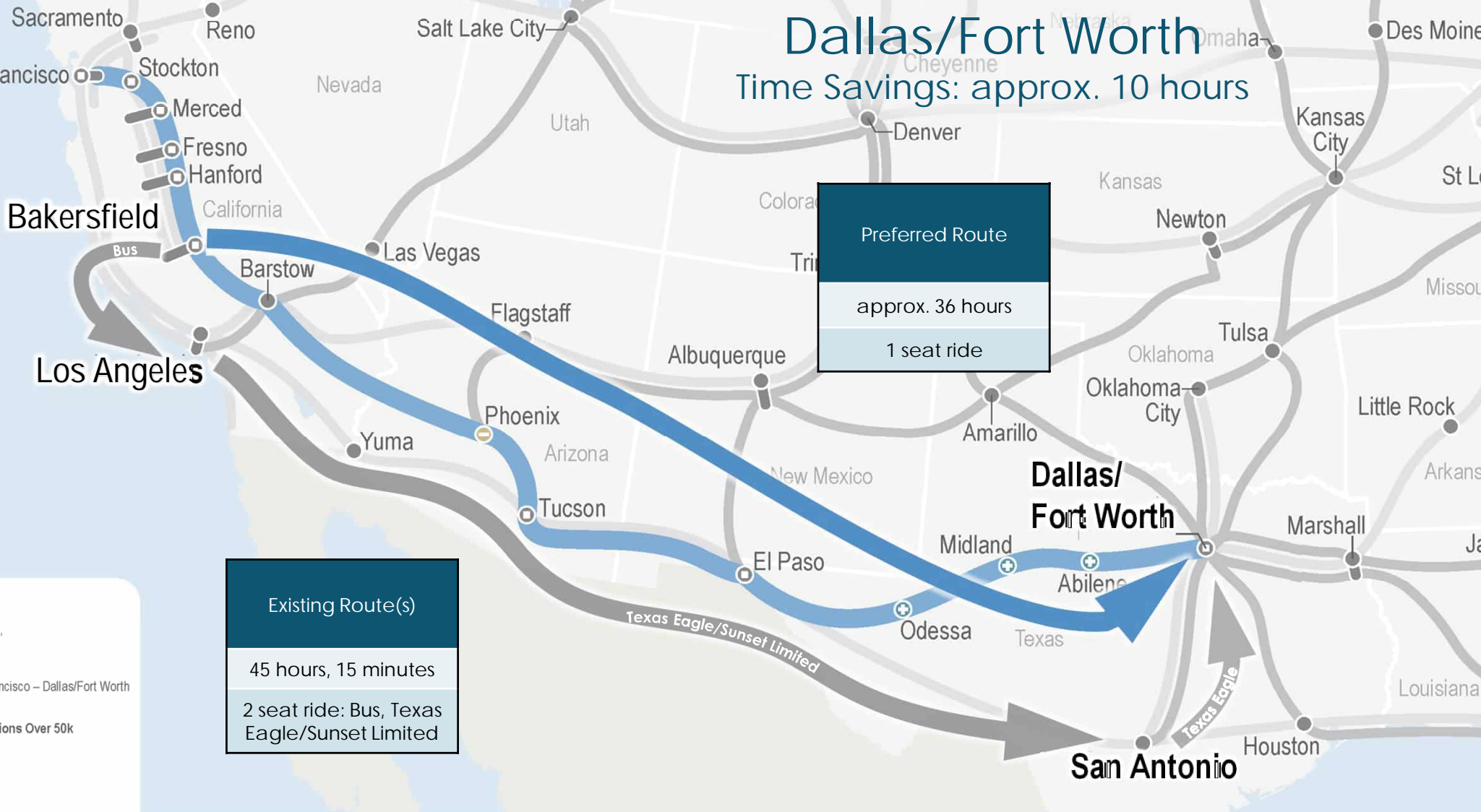
San Francisco – Dallas/Fort Worth

Proposed Preferred Route and Select Station Locations

Conceptual run times are intended to support network analysis and do not consider existing or future traffic conditions along the route.

Bakersfield to Dallas/Fort Worth

Time Savings: approx. 10 hours



Preferred Route
approx. 36 hours
1 seat ride

Existing Route(s)
45 hours, 15 minutes
2 seat ride: Bus, Texas Eagle/Sunset Limited

- Legend**
- Baseline Network**
 - Long-Distance, Northeast Corridor, State-Supported, Baseline Projects
 - Preferred Routes**
 - Preferred Route: San Francisco – Dallas/Fort Worth
 - Preferred Routes
 - Stations in Cities with Populations Over 50k**
 - Existing
 - Discontinued
 - New

Detroit – New Orleans

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 29 hours
Route length	1,246 miles
Restored service	<ul style="list-style-type: none"> Montgomery, AL Decatur, AL Nashville, TN Bowling Green, KY Louisville, KY Dayton, OH Springfield, OH Columbus, OH
New service	<ul style="list-style-type: none"> n/a

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Detroit – New Orleans
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- New

Denver – Minneapolis/St. Paul

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 26 hours
Route length	1,136 miles
Restored service	<ul style="list-style-type: none"> • Cheyenne, WY
New service	<ul style="list-style-type: none"> • Fort Collins, CO • Rapid City, SD • Sioux Falls, SD

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

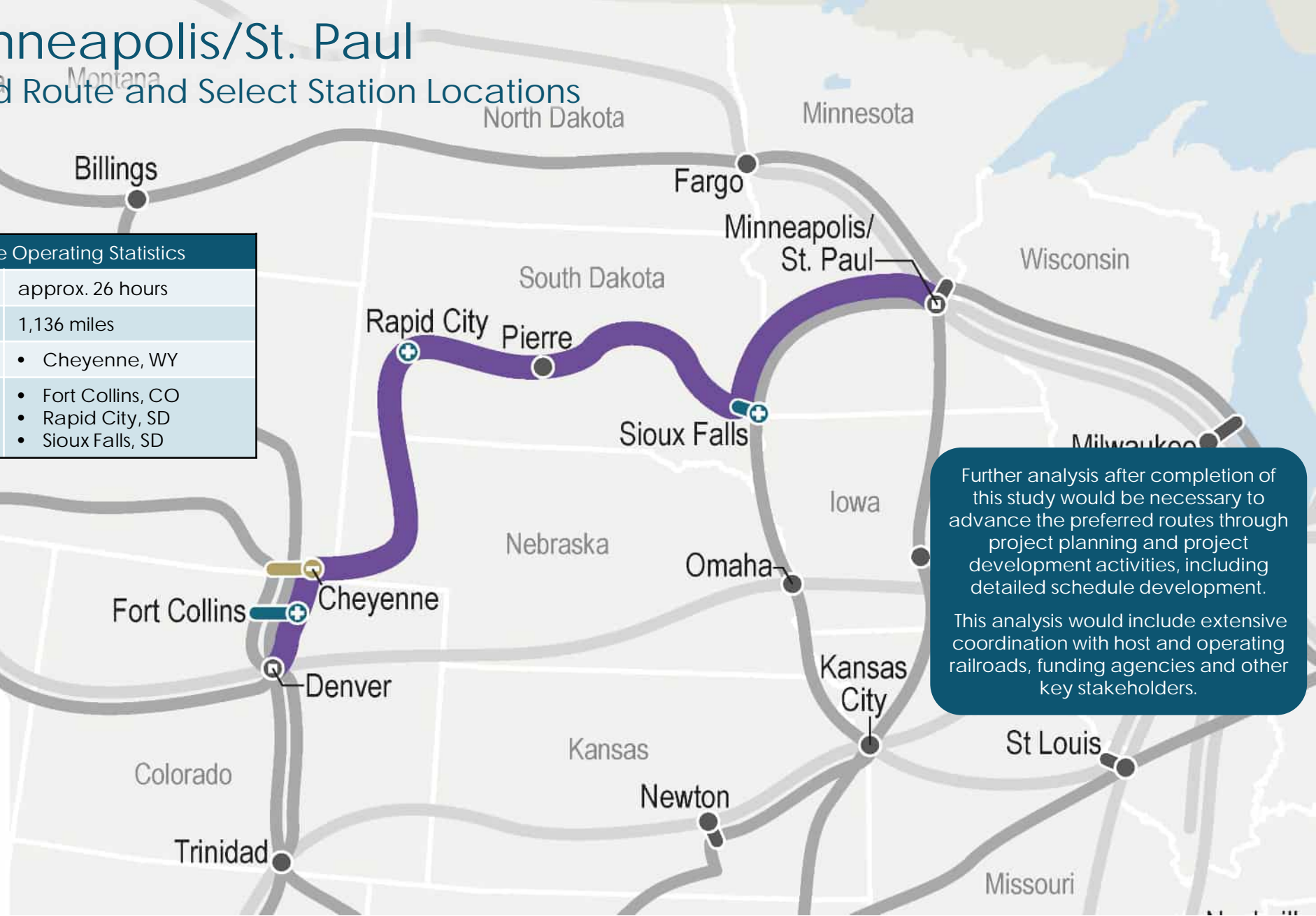
- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Denver – Minneapolis/St. Paul
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- ⊕ New



Scheduled run time for northbound or eastbound service.

Seattle – Chicago

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 50 hours
Route length	2,096 miles
Restored service	<ul style="list-style-type: none"> • Yakima, WA • Missoula, MT • Bozeman, MT • Billings, MT • Bismarck, ND
New service	<ul style="list-style-type: none"> • Helena, MT

Legend

Baseline Network

— Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

— Preferred Route: Seattle – Chicago
 — Preferred Routes

Stations in Cities with Populations Over 50k

○ Existing
 ● Discontinued
 ○ New

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development. This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Scheduled run time for northbound or eastbound service.

Dallas/Fort Worth – Atlanta

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 22 hours
Route length	870 miles
Restored service	• n/a
New service	• Shreveport, LA

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: Dallas/Fort Worth – Atlanta
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- New

Scheduled run time for northbound or eastbound service.

El Paso – Billings

Proposed Preferred Route and Select Station Locations

Preferred Route Operating Statistics	
Scheduled run time	approx. 31 hours
Route length	1,393 miles
Restored service	<ul style="list-style-type: none"> • Cheyenne, WY • Billings, MT
New service	<ul style="list-style-type: none"> • Las Cruces, NM • Pueblo, CO • Colorado Springs, CO • Fort Collins, CO • Casper, WY

Further analysis after completion of this study would be necessary to advance the preferred routes through project planning and project development activities, including detailed schedule development.

This analysis would include extensive coordination with host and operating railroads, funding agencies and other key stakeholders.

Legend

Baseline Network

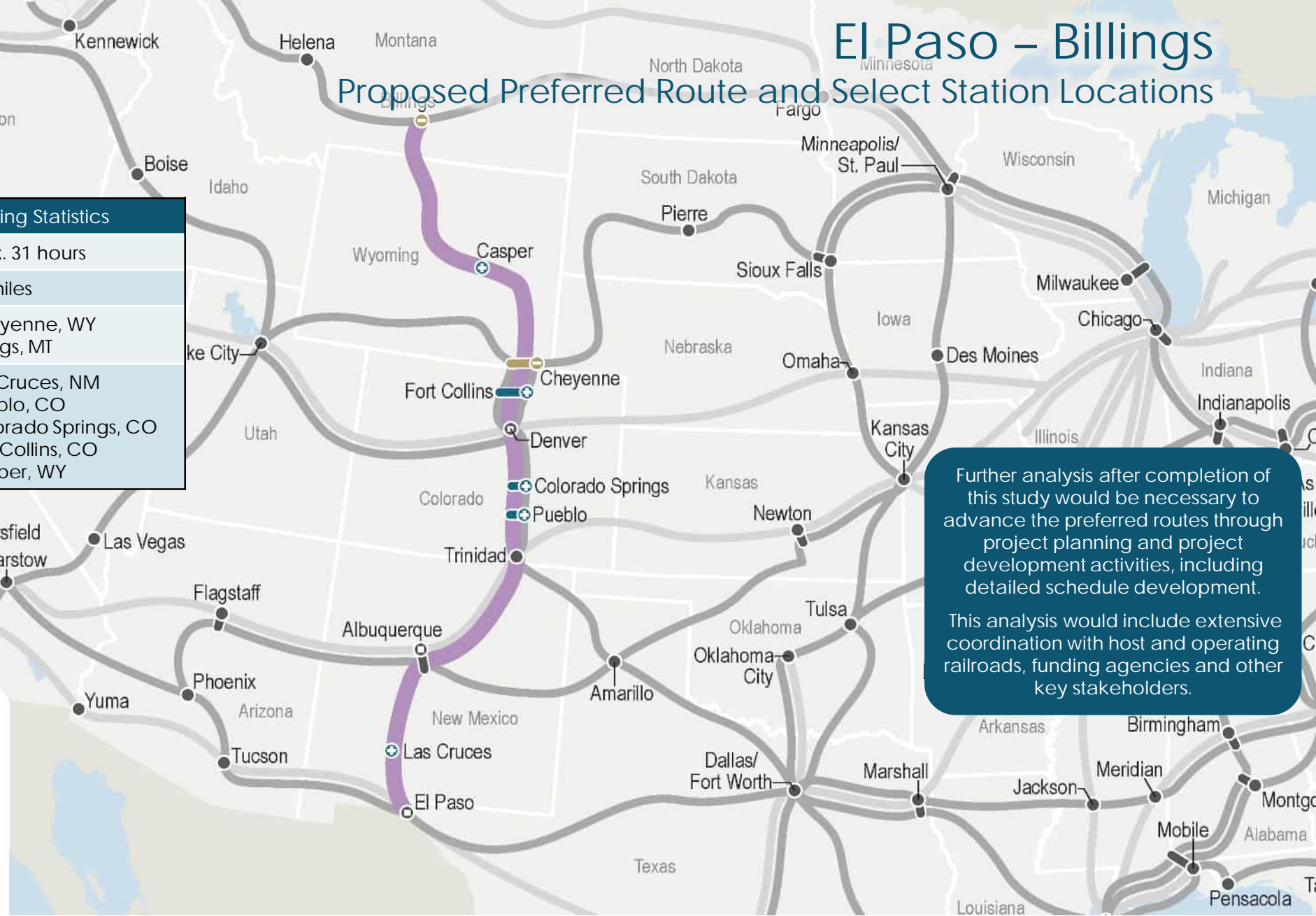
- Long-Distance, Northeast Corridor, State-Supported, Baseline Projects

Preferred Routes

- Preferred Route: El Paso – Billings
- Preferred Routes

Stations in Cities with Populations Over 50k

- Existing
- Discontinued
- ⊕ New



Development of Route Service: Next Steps

- **Develop conceptual service schedules**
 - Schedule long-distance service (one train a day in each direction)
 - Serve those MSA pairs that have the highest volume of trips during daytime hours (5 a.m. - 11 p.m.)
 - Support connections between existing routes and preferred routes for key markets
- **Conceptual service schedules will inform:**
 - Cost estimating (capital and operating & maintenance costs)
 - Elements of the public benefits analysis (number of new origin-destination pairs, travel time savings on the network, jobs and earnings supported by operations/construction)
 - Travel demand estimating

DEVELOPMENT OF CAPITAL AND OPERATING & MAINTENANCE COST ESTIMATES

CAPITAL COST ESTIMATING

Capital Cost Estimating for Passenger Specific Projects

Provides high-level cost estimating to support early planning activities

Includes 35% allocated contingency to address project risks

Estimates Passenger-service specific project costs

- Track upgrades
- Stations
- Maintenance facilities
- Signalization and Positive Train Control (PTC)
- Rolling stock

Capital Cost Methodology

- FRA Budgeting Tool: Standard Cost Categories (SCC)

<p>SCC 10: Track Structures and Track</p> <ul style="list-style-type: none"> • Upgrade track class 1, 2, or 3 to track class 4 • New track connections 	<p>SCC 20: Stations and Terminals</p> <ul style="list-style-type: none"> • New stations • New platforms 	<p>SCC 30: Support Facilities: Yards, Shops, Admin. Bldgs.</p> <ul style="list-style-type: none"> • New yard leads to access storage tracks • New maintenance facilities • New enroute servicing facilities 	<p>SCC 50: Communications and Signaling</p> <ul style="list-style-type: none"> • Signals & PTC for new track connections (crossovers and turnouts) • Signals & PTC for upgraded track 	<p>SCC 70: Vehicles</p> <ul style="list-style-type: none"> • Diesel locomotives • Baggage cars • Sleeper cars • Diner cars • Lounge cars (café/sightseer) • Single- and bi-level passenger cars
<p>SCC 80: Professional Services</p> <ul style="list-style-type: none"> • Service Planning • Project Environmental/Survey • Conceptual & Preliminary Engineering • Final Design • Project Management • Construction Administration, • Engineering Inspection • Startup, Certification, Commissioning • Contract Administration • Insurance 				

Passenger Rail Route Infrastructure

■ Track Considerations

- Identify new track connections where necessary to connect the end-to-end route
- Improve existing rail infrastructure to FRA Track Class 4
 - ✓ Identify existing track speed based on track classification and available data
 - ✓ Upgrade track classification 1, 2, or 3 to track class 4

■ Signalization and PTC Considerations

- Add signaling and PTC where missing to support FRA Track Class 4 passenger rail operations
- Add PTC where existing signalization is sufficient to support passenger rail operations as required

Passenger rail maximum speed

- Track Class 1: 15 miles per hour
- Track Class 2: 30 miles per hour
- Track Class 3: 60 miles per hour
- Track Class 4: 80 miles per hour

Stations and Terminals

Amtrak Station Types	Use Case
Large Station Large station building, transit connections, offices, restrooms	<ul style="list-style-type: none">• New large terminal stations• Located at route endpoints
Medium Station Station building, offices, restrooms	<ul style="list-style-type: none">• Staffed stations with ticket office• Includes crew base and enroute servicing
Caretaker Station Station building, restrooms	<ul style="list-style-type: none">• Unstaffed station with ticketing machine• Supports variability in long-distance train operations
Shelter Station Sheltered waiting room	<ul style="list-style-type: none">• Not considered for preferred routes• Supports a conservative approach to cost estimating

- Costs included for new stations not currently served by passenger rail
- Station types may be adjusted to reflect the needs within the station area

Support Facilities

- Costs included for new terminal facilities, additional yard track, and enroute servicing

New maintenance facilities at terminals of preferred routes where there is not an existing terminal facility

Full maintenance facility at terminals of preferred routes

Size based on the number of preferred routes served

Additional yard tracks at existing facilities

Based on the number of routes that could be served

Enroute servicing costs

Food vender refill

Daily inspection (engine and car)

Potable water refill

Waste water servicing

Garbage pick up

Capital Cost Estimate Outputs

- Capital Cost estimates will be reported as a range by FRA SCC for each of the preferred routes
- The high-cost estimate includes an additional 30% unallocated contingency over and above the low-cost estimate to account for unforeseen circumstances that impact project delivery.
- The values will represent high-level cost estimates to support early planning.
- Substantial additional planning and analysis would be required for further refinement and accuracy.

FRA SCC

SCC 10: Track Structures & Track

SCC 20: Stations and Terminals

SCC 30: Support Facilities: Yards, Shops, Admin. Bldgs.

SCC 50: Communications & Signaling

SCC 70: Vehicles

SCC 80: Professional Services

Total

OPERATING AND MAINTENANCE COST ESTIMATING

Operating and Maintenance Cost Estimating

- Provides high-level cost estimating to support early project planning
- Operating and maintenance (O&M) costs for marginal and fixed costs

Marginal Costs

Costs vary by the level of service provided

- Boardings
- Locomotive Miles
- Locomotive Trips
- Coach, Food Service, Sleeper Car Hours
- Passenger Car Trips
- Non-Shared Staffed Stations
- Train Hours
- Train Miles
- Locomotive Days
- Passenger Car Days

Fixed costs

Costs that are static regardless of the level of service provided

- General & Administrative (Except Sales & Marketing)
- Non-Operating

Operating and Maintenance Cost Methodology

- Based on Amtrak Performance Tracking statistics for fiscal year 2019
- Identified 135 operating statistics addressing marginal and fixed O&M cost categories
- Identified marginal O&M unit costs for existing long-distance routes by operating statistic
- Weighted average unit costs for existing long-distance routes applied to preferred routes with the same number of nights and days operated/week
 - Not including existing non-daily Cardinal or Sunset Limited routes, or Auto Train
- Existing fixed costs would remain unchanged

O&M Cost Estimate Outputs

- O&M cost estimates will be reported as a range for each of the preferred routes.
- The low- and high-range of cost estimates reflect the variation in marginal unit costs by operating statistic of existing long-distance routes.
- The values will represent high-level cost estimates to support early planning.
- Substantial additional planning and analysis would be required for further refinement and accuracy.

Type
Marginal Cost
Fixed Cost
Total O&M Cost

PRIORITIZATION AND IMPLEMENTATION FEEDBACK

Prioritization Considerations

Category	Examples
Public and Rider Benefits	Access to new markets Passenger rail travel time savings Jobs and earnings supported by operations/construction Expanding geographic coverage of the long-distance network Increasing number of passenger rail connections
Capital Cost Estimates	Total capital costs Capital costs per mile
O&M Cost Estimates	Operating cost by route mile Operating cost by population served
Complexity in Development and Implementation	Number of host and operating railroads
Consistency with Intercity Passenger Rail Projects	Corridor ID selections for long-distance routes Benefit to state supported services

Interactive Session – Prioritization Feedback

What parameters are the most important to consider for prioritization?

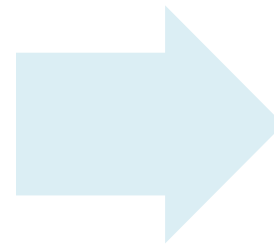
- Place the sticky dot on each “Category” that should be prioritized as we develop an implementation phasing plan. Please limit to 3 sticky dots.
- Provide input on sticky notes for any other examples you think should be considered.

Timeframes of Implementation of Operations

Development and Implementation Timeline for a Preferred Route

15 Year Timeline

- Year 0-4: Project Planning
- Year 4-8: Project Development
- Year 8-14: Final Design and Construction
- Year 15: Start of Operations



Conceptual Timeframes for Implementation

- Near-term: 2040 to 2050
- Mid-term: 2050 to 2060
- Long-term: 2060 +

ONGOING LONG-DISTANCE COLLABORATION AND PLANNING

Governance Feedback from Meeting Series 2

- Participants were asked how FRA and Amtrak could coordinate with stakeholders about current and future long-distance services.
 - Themes for current and future service input included:
 - ✓ Community and Rider Engagement: Increased awareness of services and related benefits; coordinated marketing with states and communities; local first/last mile connections; rider surveys; engagement with Tribal Nations, disability community, health care providers, higher education, and tourism/chambers of commerce
 - ✓ Planning: Coordinated planning across states and corridor(s), including regional transportation plans and potential multimodal connections/hubs; schedules; station amenities
 - Potential models of governance bodies included:
 - ✓ Congressionally-created bodies, such as SAIPRC and NECC; Interstate Rail Compacts, including SRC and MIPRC
 - ✓ Others, including: SPRC, Associations (APTA, AASHTO, CTAA), and MPOs

Ideas for Ongoing Long-Distance Collaboration

- FRA is considering ideas for a new Long-Distance Public Committee, which would likely need to be established by Congress
- This committee could focus on ongoing feedback for current Amtrak long-distance service.
- This Long-Distance Public Committee could serve several functions, including:
 - Coordinating with Amtrak on policies for engagement / marketing with station communities and states
 - Developing annual customer service reports or passenger surveys
 - Serving as a forum for long-distance service policy discussions related to current service
- Committee membership could potentially include states with long-distance service, Amtrak, FRA, and other long-distance-focused associations or groups.

Ideas for Ongoing Long-Distance Planning

- FRA is considering ideas for a recurring, high-level long-distance planning process, potentially updated approximately every five years, documenting:
 - Existing long-distance service, trends and forecasts, as well as needs and opportunities
 - Proposed long-distance passenger rail programs and investments, as well as the status of previously proposed long-distance passenger rail plans, projects, or other programs
- This process, led by FRA, could be similar to State Rail Plans or other comparable transportation investment plans, focusing on the status and needs of future Amtrak long-distance service, as well as needs for current service.
- Any new planning process would involve significant stakeholder engagement

NEXT STEPS

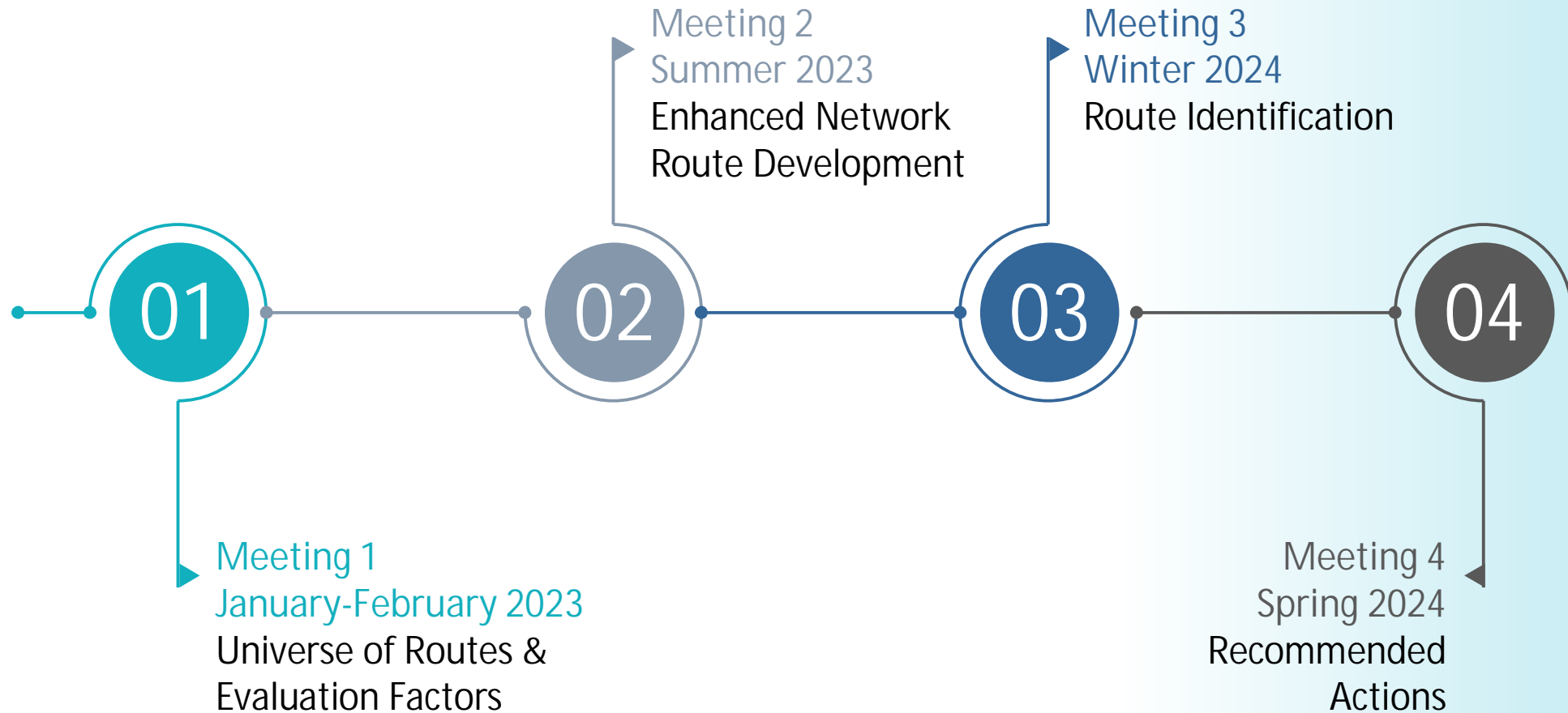
Next Steps for Stakeholders

- Encourage your communities and constituencies to review the meeting materials on the website
 - All presentations and summaries will be posted online after the completion of the meeting series
- Submit any feedback on the topics and materials from this meeting via the project website by March 8 for inclusion in our analysis and report
 - Due to the breadth of the study, it may not be possible to respond to all feedback, but all feedback will be reviewed by the team and captured in our report

Study Next Steps

- Based on feedback received from this meeting and the other regions:
 - Identify preferred routes for near, mid and long-term implementation
- For stakeholder meeting 4:
 - Show costs and public benefits of the preferred routes
 - Identify implementation schedules for the preferred routes
 - Present long-distance study recommended actions and discuss next steps
- Post all meeting materials on the project website

Long-Distance Service Study Engagement Schedule



Stay Informed

FRA Long-Distance Service Study

Website: www.fralongdistancerailstudy.org

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