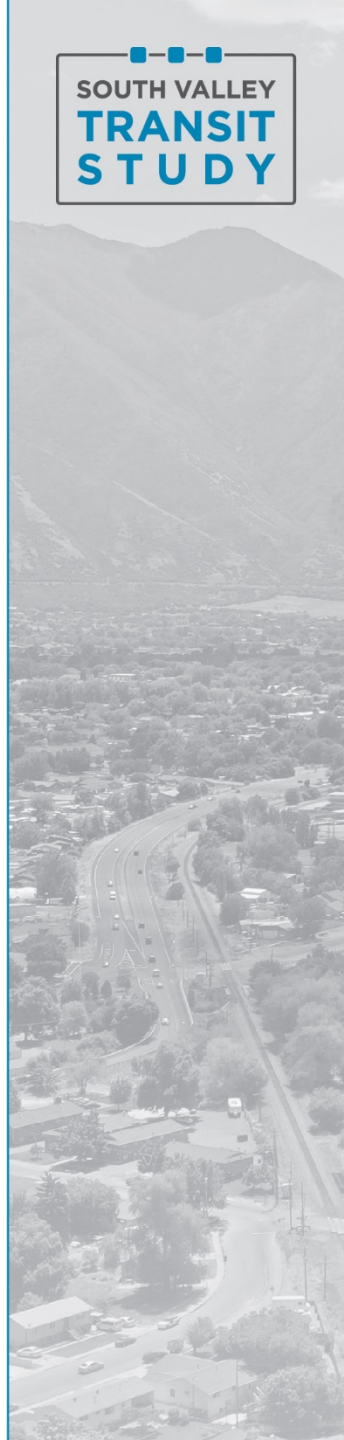


South Valley Transit Study

TAC Workshop #3

March 3, 2021 | 9-11 a.m.



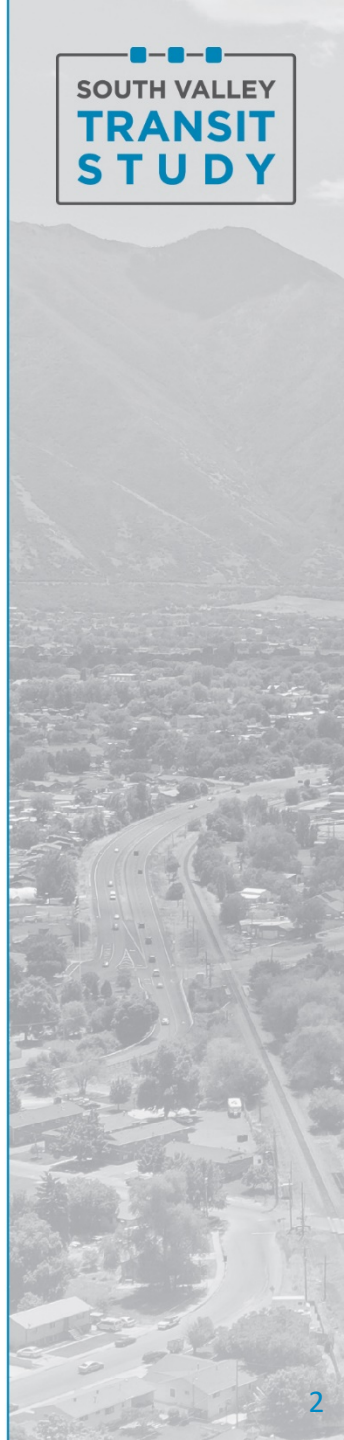
Welcome and Introductions

➤ Welcome

➤ Introductions

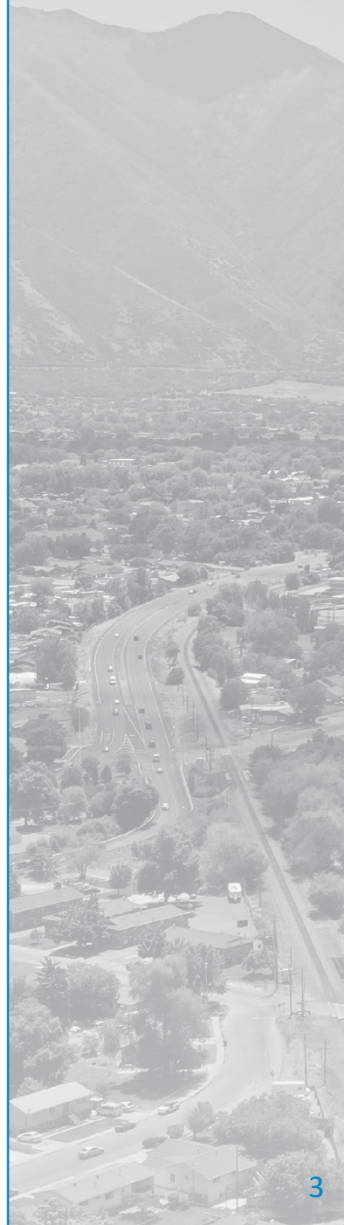
➤ Meeting Agenda

- Recap and Transit Study Refresh
- Initial Evaluation Workshop
- Stakeholder Engagement Update
- Next Steps and Wrap-Up

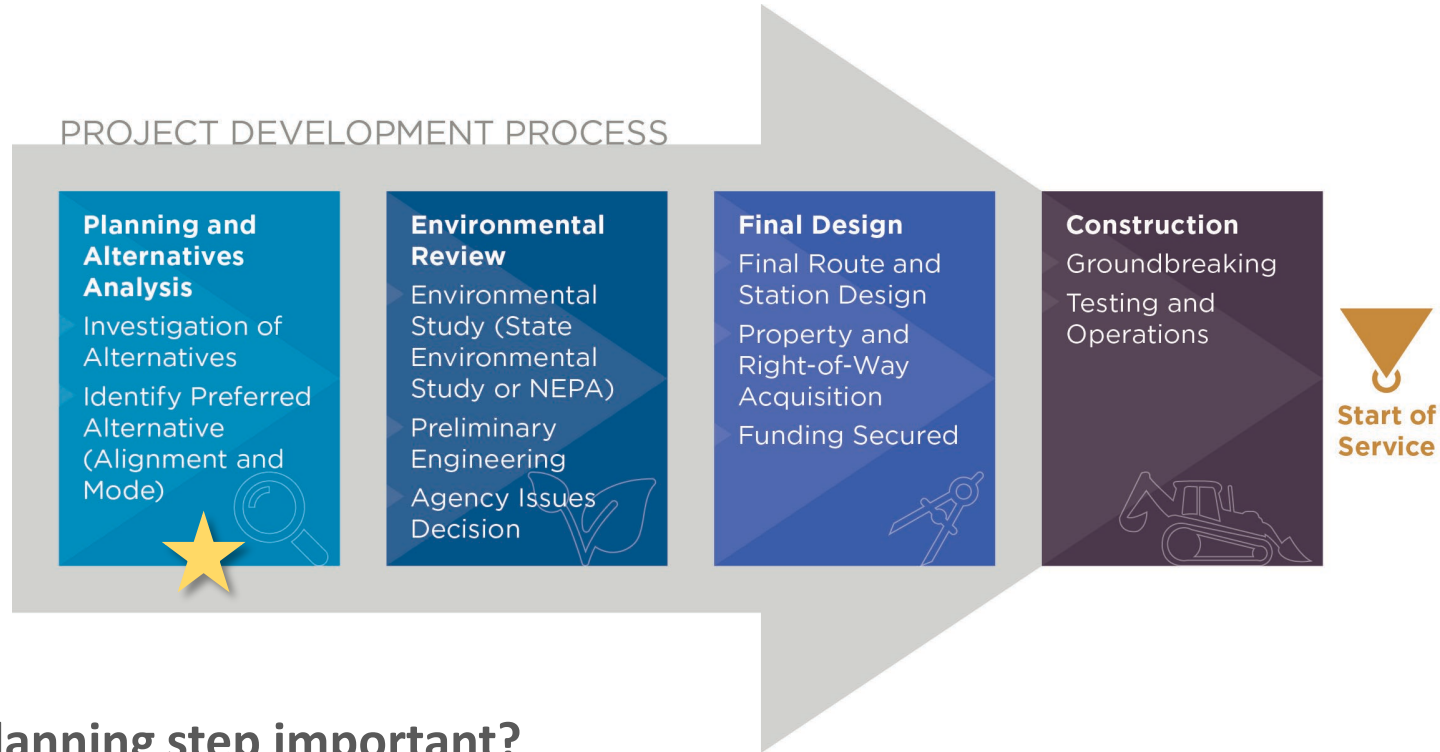


Recap From Last Meeting

- Purpose and Need
- Evaluation Process Overview
- Initial Range of Alternatives and Modes



Transit Project Development Roadmap



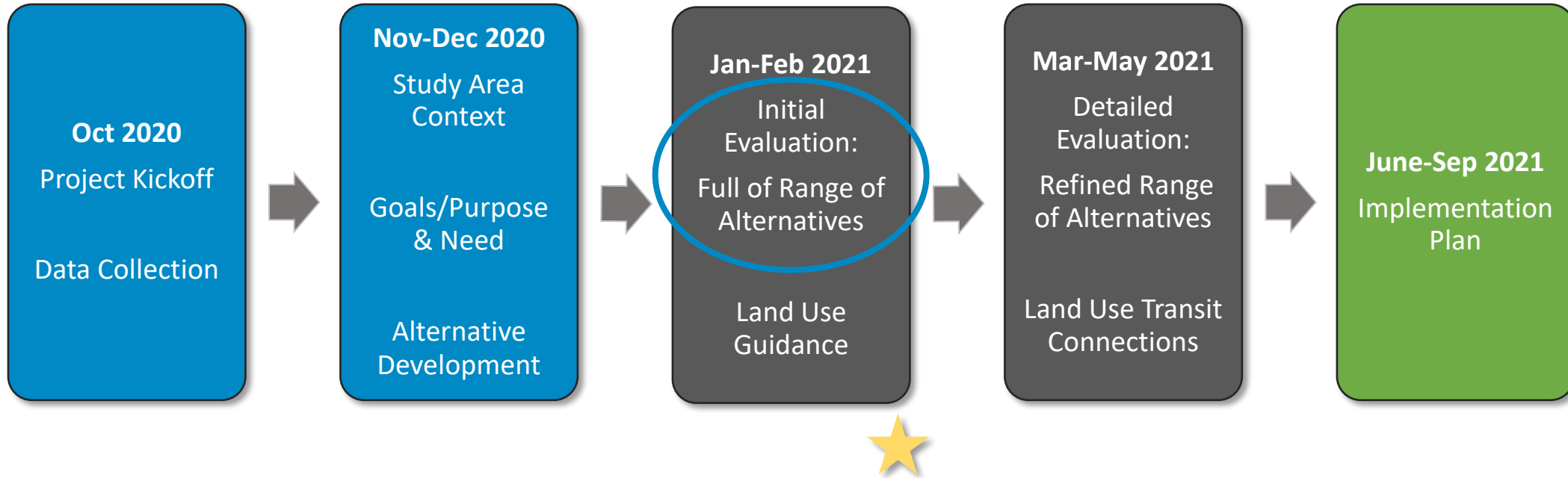
Why is this planning step important?

- Define the project need
- Develop alignment and transit mode decision for major capital investment
- Future phases build on this step

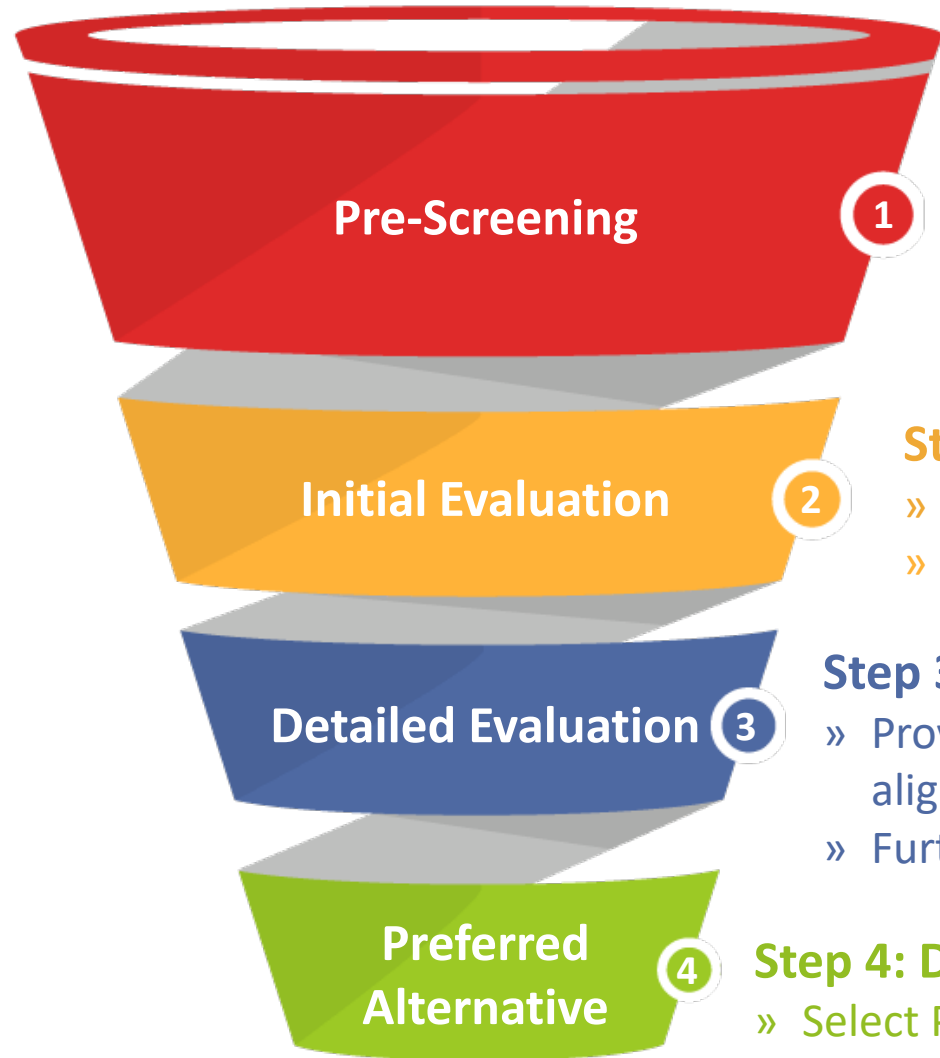
How is this step different than environmental review and other future steps?

- Increasing level of detail about engineering, cost, and environmental effects with each step

Transit Study Roadmap



Alternatives Evaluation Roadmap



Step 1: Fatal flaw review

- » Review full range of corridors and modes
 - Does the corridor or mode meet the Purpose & Need?
 - Is there an obvious fatal flaw?
 - Reduce corridors and modes based on pre-screening

Step 2: Evaluate alternatives at a high-level

- » Combine remaining corridors/modes into logical alternatives
- » Reduce alternatives based on initial evaluation

Step 3: Evaluate alternatives in more detail

- » Provide greater definition (identify service assumptions, stations, alignment details)
- » Further narrowing of alternatives

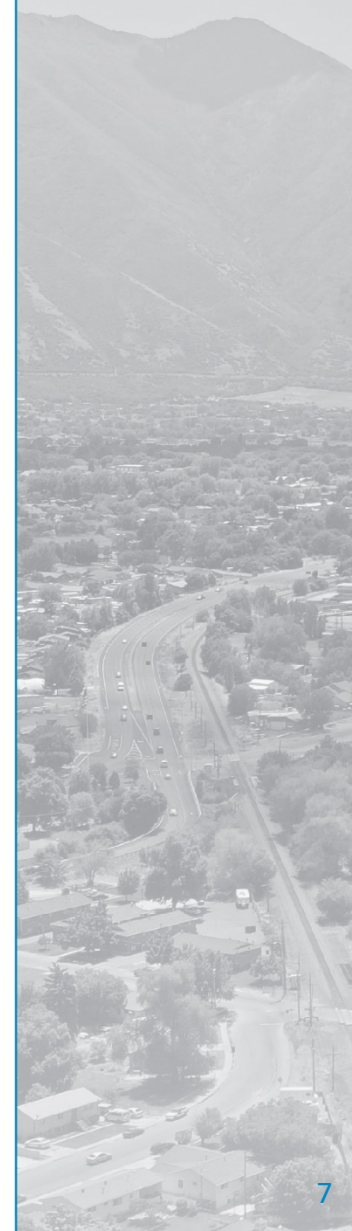
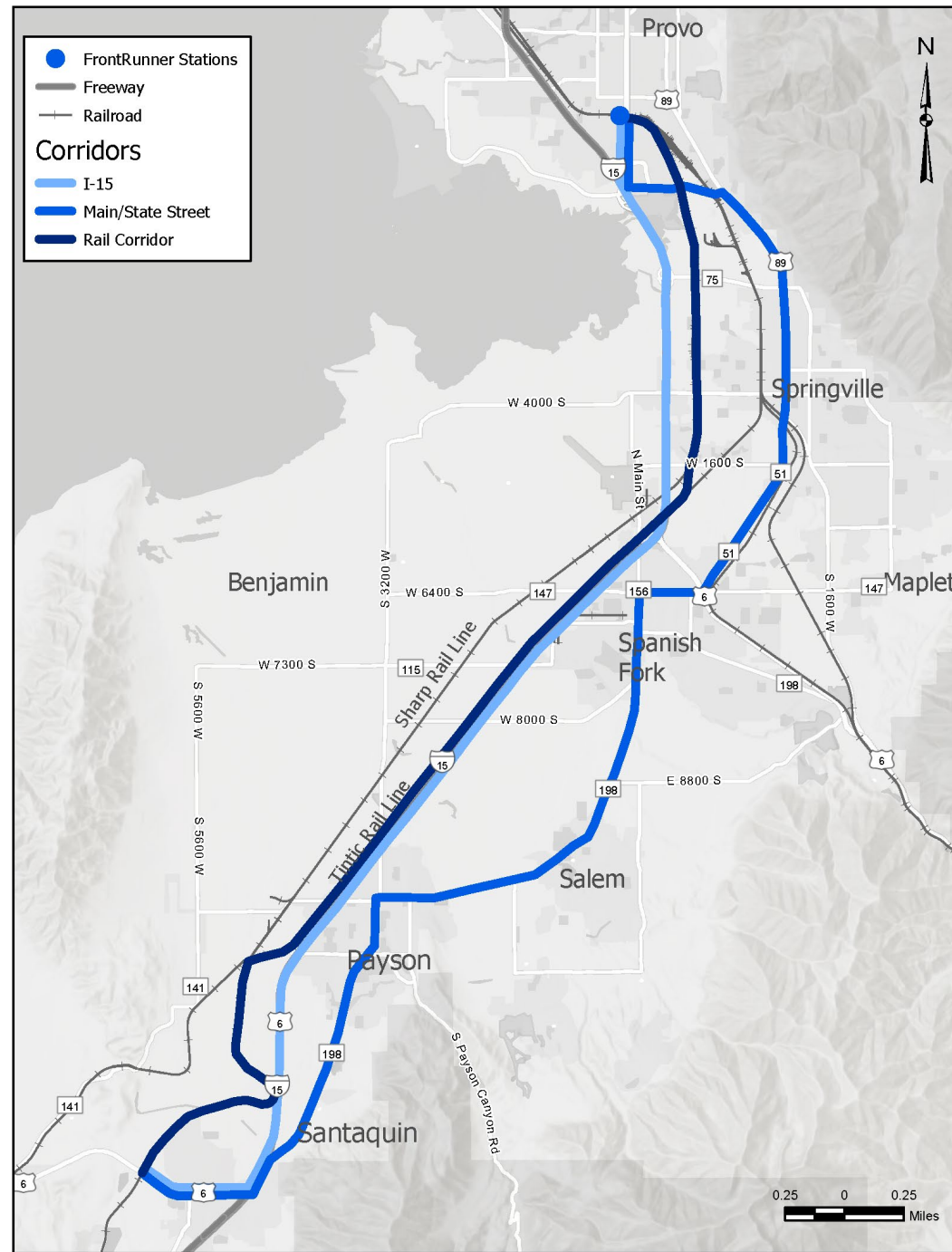
Step 4: Develop Implementation Plan

- » Select Preferred Alternative
- » Consider potential phasing options



2

Initial Evaluation — Transit Corridors



2

Initial
Evaluation



Transit
Modes



Commuter Rail (CRT)



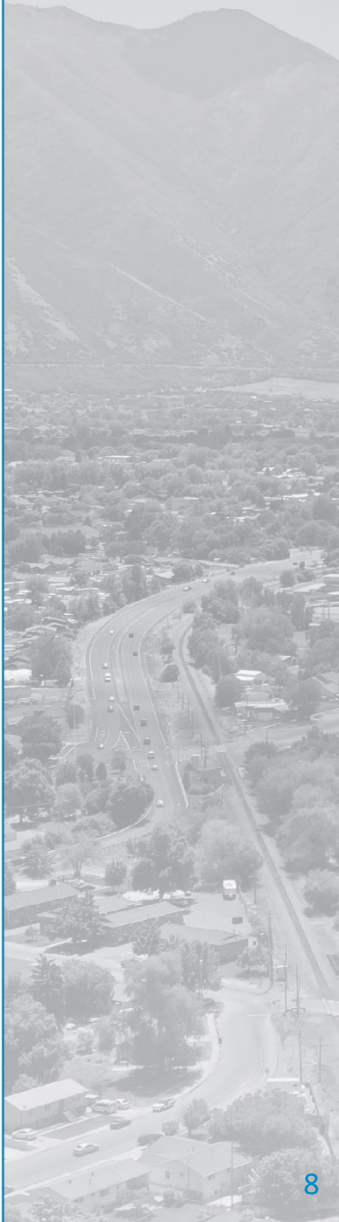
Bus Rapid Transit (BRT)



Light Rail (LRT)



Express Bus



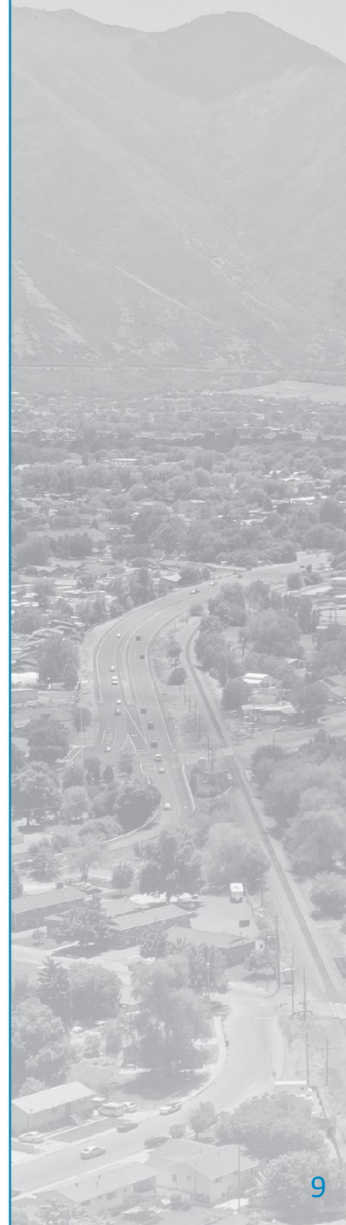
2 Initial Evaluation Alternatives



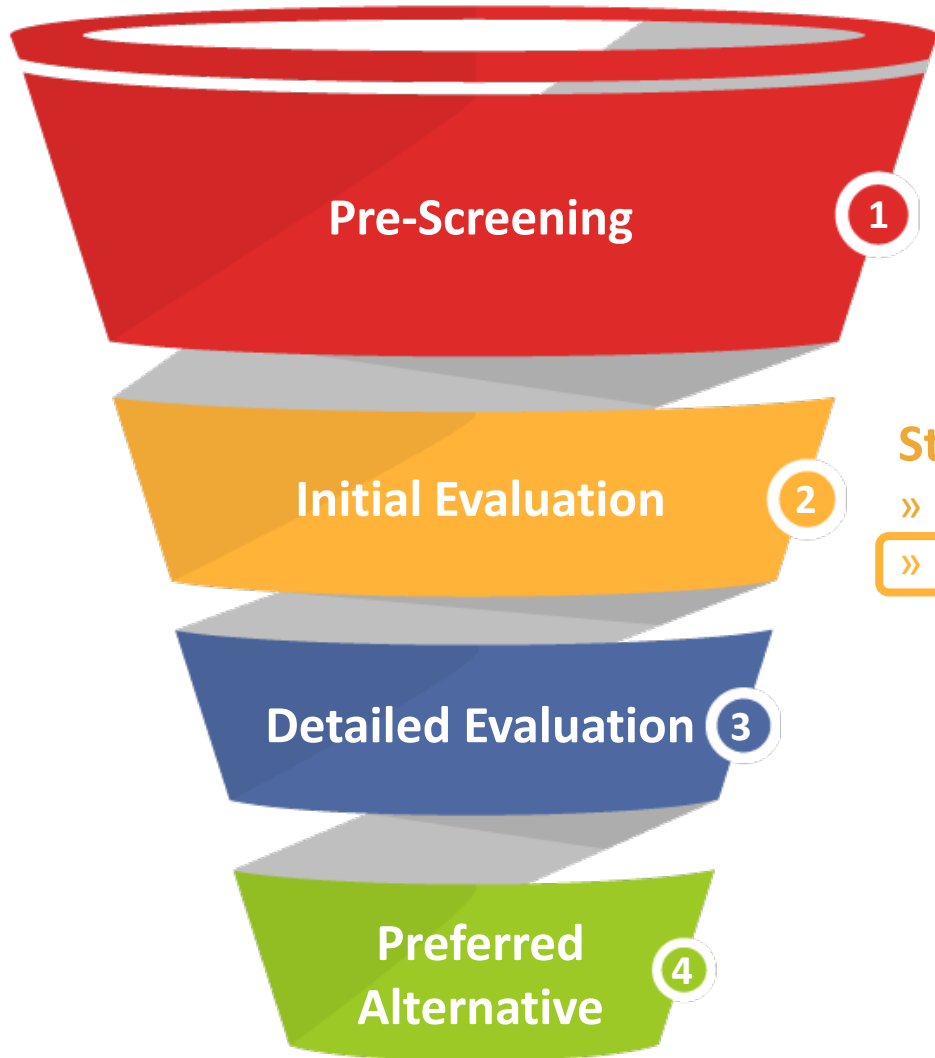
Mode	Definition	State/ Main	Rail Corridor	I-15
Commuter Rail	<ul style="list-style-type: none"> Operates in <u>exclusive</u> transit alignment Regional service with longer stop spacing (4 stations) 	No	Yes	No
Light Rail	<ul style="list-style-type: none"> Operates in <u>exclusive</u> transit alignment (shoulder-running/median on I-15 or State/Main; rail corridor ROW) Regional service with longer stop spacing (4 stations) 	Yes	Yes	Yes
Bus Rapid Transit	<ul style="list-style-type: none"> Operates in <u>exclusive</u> transit alignment on Rail Corridor Operations in ~50% exclusive alignment on I-15 and State/Main Regional service with longer stop spacing (4 stations) 	Yes	Yes	Yes
Express Bus	<ul style="list-style-type: none"> Operates in mixed flow traffic Regional service with longer stop spacing (4 stations) 	Yes	No	Yes

Notes:

- **Alternatives represent full buildout (2050) and service from Provo to Santaquin**
- Frequency of service would be the same for all alternatives
- Regional stop spacing ~5 miles between stations



Alternatives Evaluation Roadmap



Step 2: Evaluate alternatives at a high-level

- » Combine remaining corridors/modes into logical alternatives
- » Reduce alternatives based on initial evaluation – *this step*



2

Initial Evaluation – How to Decide?



➤ Evaluation criteria:

- Transit speed
- Transit reliability
- Transit connections
- Ridership potential
- Transportation system impacts
- Community compatibility
- Economic development potential
- Cost considerations
- Constructability and operational considerations
- Built and natural environmental considerations

Initial evaluation:

- ❖ Planning level analysis
- ❖ Minimal engineering

Initial evaluation criteria are:

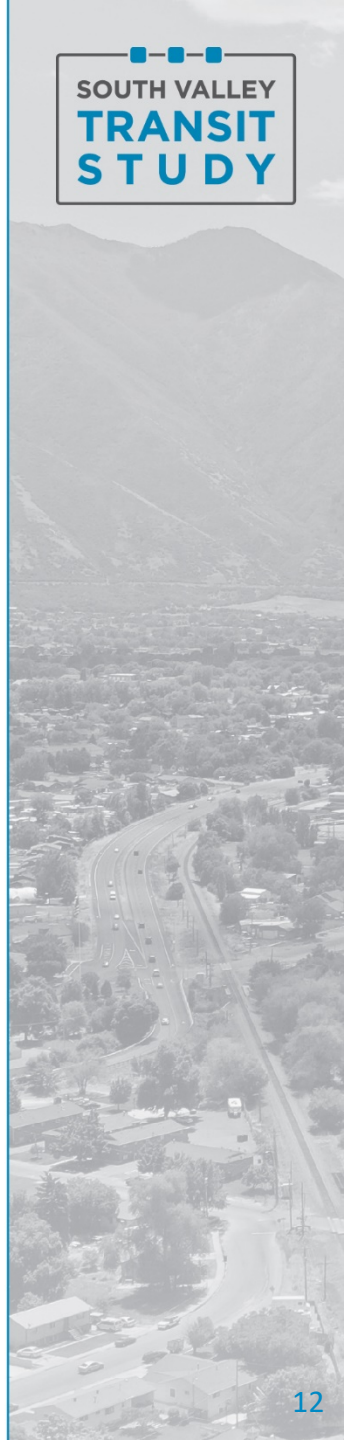
- ❖ High-level
- ❖ Largely qualitative
- ❖ Help illustrate key differences



2 Initial Evaluation – Workshop Overview



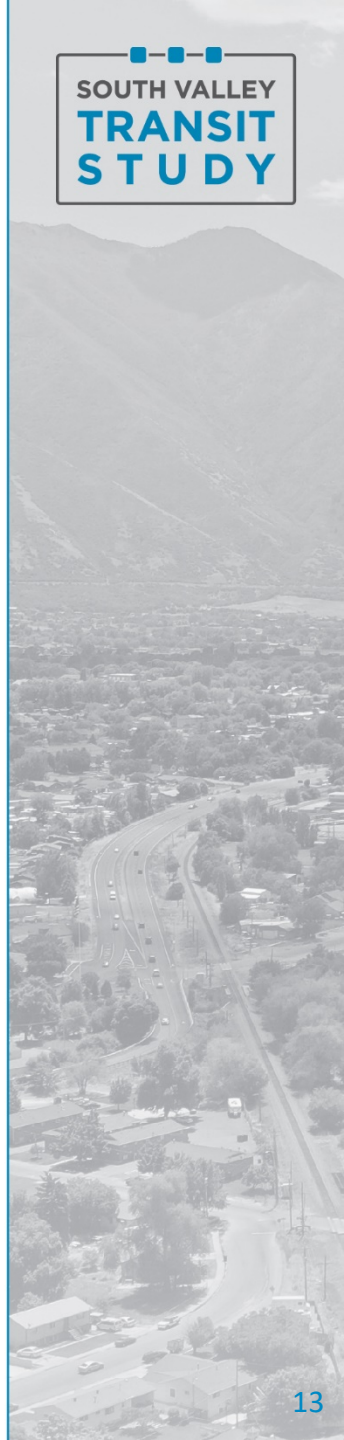
- General observations
- Corridor specific observations
 - Rail Corridor observations
 - I-15 observations
 - State/Main Street observations
- Questions on detailed ratings?
- **Draft recommendation for alternatives to evaluate in detail**
- Other key takeaways



2 Initial Evaluation – What did we learn?

➤ General Observations:

- **Rail Corridor** – Tends to be the best performing overall for most modes
- **I-15** – Has most variability of performance by mode and most challenging/complex to serve with fully exclusive transit
- **State/Main** – Overall corridor length and number of signalized intersections reduces transit performance, more challenging to serve regional need



2

Initial Evaluation – What did we learn?



➤ Key Findings – Rail Corridor Alternatives:

- **Similarities for all alternatives:**
 - High performing for transit reliability, ridership, community compatibility, and economic development potential
 - Moderate performance for cost, transportation impacts, natural/built enviro considerations
- **Commuter Rail**
 - PROS: Better performing due to higher transit speed, transit reliability, **potential for regional connections**
 - CONS: Moderate construction complexity and transportation system impacts, more costly
- **Light Rail**
 - PROS: High transit reliability
 - CONS: Moderate construction complexity and system impacts, **operational challenges, lower speeds**, more costly
- **Bus Rapid Transit**
 - Similar to Commuter Rail except for reduced performance in transit connections

Initial Screening Criteria	Rail Corridor Commuter Rail	Rail Corridor Light Rail	Rail Corridor Bus Rapid Transit
➤ Transit speed	●	●	●
➤ Transit reliability	●	●	●
➤ Transit connections	●	●	●
➤ Transit ridership potential	●	●	●
➤ Transportation system impacts	●	●	●
➤ Community compatibility	●	●	●
➤ Economic development potential	●	●	●
➤ Capital cost considerations	●	●	●
➤ Constructability or operational considerations	●	●	●
➤ Natural and built environment considerations	●	●	●
➤ Project stakeholder input			
➤ Public input			

Key:

- High performance and/or low impact
- Moderate performance and/or moderate impact
- Low performance and/or high impact

2

Initial Evaluation – What did we learn?



➤ Key Findings – I-15 Corridor Alternatives:

- **Similarities for all alternatives:**
 - High ridership, low community compatibility, high transportation system impacts
- **Light Rail**
 - PROS: **High transit reliability**; moderate transit connection potential
 - CONS: Moderate speeds; **most costly** and challenging construction and operation elements, and high transportation system impacts
- **Bus Rapid Transit**
 - PROS: High transit speed, low natural/built impacts
 - CONS: In general, moderate performance for several measures; high transportation system impacts and challenging construction elements
 - Note rating change from materials sent
- **Express Bus**
 - PROS: High transit speeds, low cost, **low construction/operational impacts, lower overall impacts**
 - CONS: **Low transit reliability, low potential for transit connections**

Initial Screening Criteria	I-15 Light Rail	I-15 Bus Rapid Transit	I-15 Express Bus
➤ Transit speed	●	●	●
➤ Transit reliability	●	●	●
➤ Transit connections	●	●	●
➤ Transit ridership potential	●	●	●
➤ Transportation system impacts	●	●	●
➤ Community compatibility	●	●	●
➤ Economic development potential	●	●	●
➤ Capital cost considerations	●	●	●
➤ Constructability or operational considerations	●	●	●
➤ Natural and built environment considerations	●	●	●
➤ Project stakeholder input			
➤ Public input			

Key:

- High performance and/or low impact
- Moderate performance and/or moderate impact
- Low performance and/or high impact

2

Initial Evaluation – What did we learn?



➤ Key Findings – Main/State Street Corridor Alternatives:

- **Similarities for all alternatives**
 - Low transit speed, high ridership potential, high transportation impacts, and low community compatibility
- **Light Rail**
 - PROS: **High transit reliability, potential for regional connections**, moderate economic development potential
 - CONS: Construction complexity and transportation system impacts, **most costly**
- **Bus Rapid Transit**
 - PROS: Moderate reliability, economic development potential, and moderate impacts to natural/built environment
 - CONS: Construction complexity and transportation system impacts, more costly
- **Express Bus**
 - PROS: **Reduced overall impacts and no construction/operational challenges, less costly**
 - CONS: **Reduced transit speed and reliability, transit connections potential, economic development potential**

Initial Screening Criteria	State/Main Light Rail	State/Main Bus Rapid Transit	State/Main Express Bus
➤ Transit speed	●	●	●
➤ Transit reliability	●	●	●
➤ Transit connections	●	●	●
➤ Transit ridership potential	●	●	●
➤ Transportation system impacts	●	●	●
➤ Community compatibility	●	●	●
➤ Economic development potential	●	●	●
➤ Capital cost considerations	●	●	●
➤ Constructability or operational considerations	●	●	●
➤ Natural and built environment considerations	●	●	●
➤ Project stakeholder input			
➤ Public input			

Key:

- High performance and/or low impact
- Moderate performance and/or moderate impact
- Low performance and/or high impact

2

Initial Evaluation – What did we learn?



Summary

- **Rail Corridor – Commuter Rail**
 - Higher performing
- **Rail Corridor – Light Rail**
 - Moderate performing
- **Rail Corridor – BRT**
 - Higher performing
- **I-15 – Light Rail**
 - Lower performing
- **I-15 – BRT**
 - Moderate/lower performing
- **I-15 – Express Bus**
 - Mixed performance (tradeoffs)
- **State/Main – Light Rail**
 - Lower performing
- **State/Main – BRT**
 - Lower performing
- **State/Main – Express Bus**
 - Mixed performance (tradeoffs)

Initial Screening Criteria	Rail Corridor Commuter Rail	Rail Corridor Light Rail	Rail Corridor Bus Rapid Transit	I-15 Light Rail	I-15 Bus Rapid Transit	I-15 Express Bus	State/Main Light Rail	State/Main Bus Rapid Transit	State/Main Express Bus
➤ Transit speed	●	●	●	●	●	●	●	●	●
➤ Transit reliability	●	●	●	●	●	●	●	●	●
➤ Transit connections	●	●	●	●	●	●	●	●	●
➤ Transit ridership potential	●	●	●	●	●	●	●	●	●
➤ Transportation system impacts	●	●	●	●	●	●	●	●	●
➤ Community compatibility	●	●	●	●	●	●	●	●	●
➤ Economic development potential	●	●	●	●	●	●	●	●	●
➤ Capital cost considerations	●	●	●	●	●	●	●	●	●
➤ Constructability or operational considerations	●	●	●	●	●	●	●	●	●
➤ Natural and built environment considerations	●	●	●	●	●	●	●	●	●
➤ Project stakeholder input									
➤ Public input									

Key:

- High performance and/or low impact
- Moderate performance and/or moderate impact
- Low performance and/or high impact

2

Initial Evaluation – Recommendation



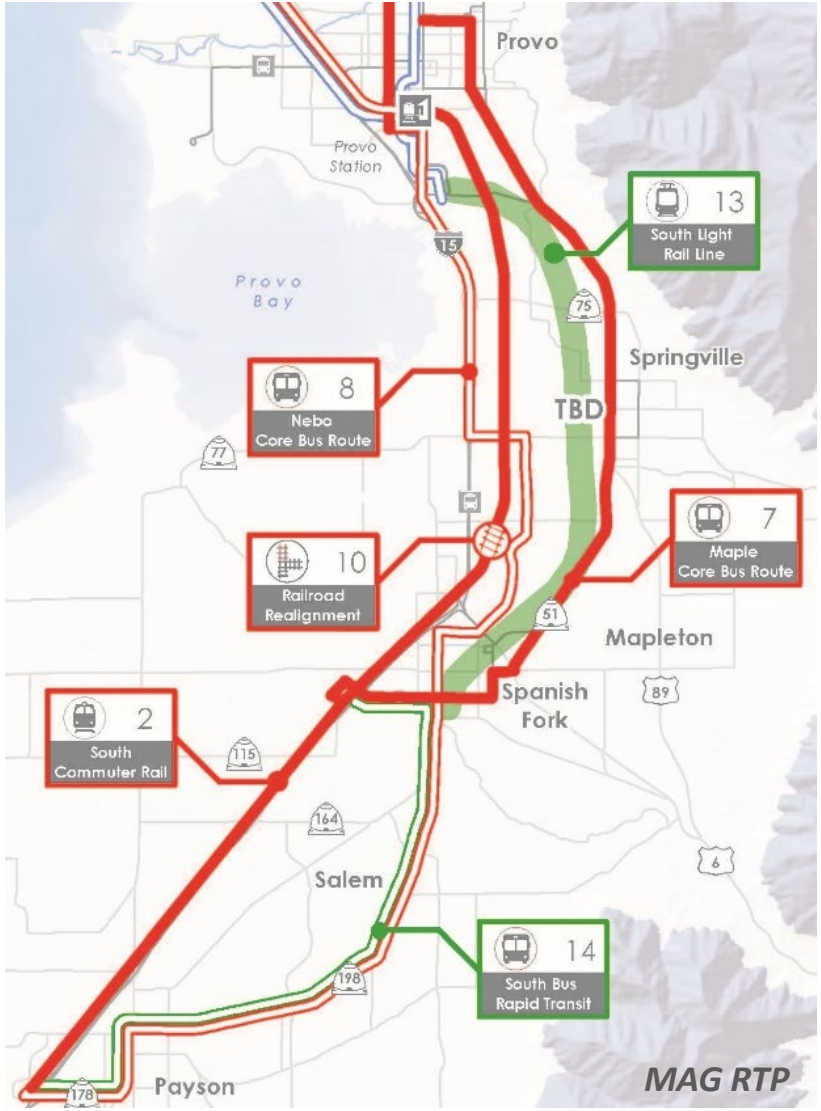
Initial Screening Criteria	Rail Corridor Commuter Rail	Rail Corridor Light Rail	Rail Corridor Bus Rapid Transit	I-15 Light Rail	I-15 Bus Rapid Transit	I-15 Express Bus	State/Main Light Rail	State/Main Bus Rapid Transit	State/Main Express Bus
➤ Transit speed	●	●	●	●	●	●	●	●	●
➤ Transit reliability	●	●	●	●	●	●	●	●	●
➤ Transit connections	●	●	●	●	●	●	●	●	●
➤ Transit ridership potential	●	●	●	●	●	●	●	●	●
➤ Transportation system impacts	●	●	●	●	●	●	●	●	●
➤ Community compatibility	●	●	●	●	●	●	●	●	●
➤ Economic development potential	●	●	●	●	●	●	●	●	●
➤ Capital cost considerations	●	●	●	●	●	●	●	●	●
➤ Constructability or operational considerations	●	●	●	●	●	●	●	●	●
➤ Natural and built environment considerations	●	●	●	●	●	●	●	●	●
➤ Project stakeholder input									
➤ Public input									

Recommendation: Move the following alternatives into detailed evaluation

- ❖ Rail Corridor – Commuter Rail
- ❖ Rail Corridor – BRT
- ❖ For both alternatives, consider two operational scenarios, example: 1) all day service 2) AM/PM peak service

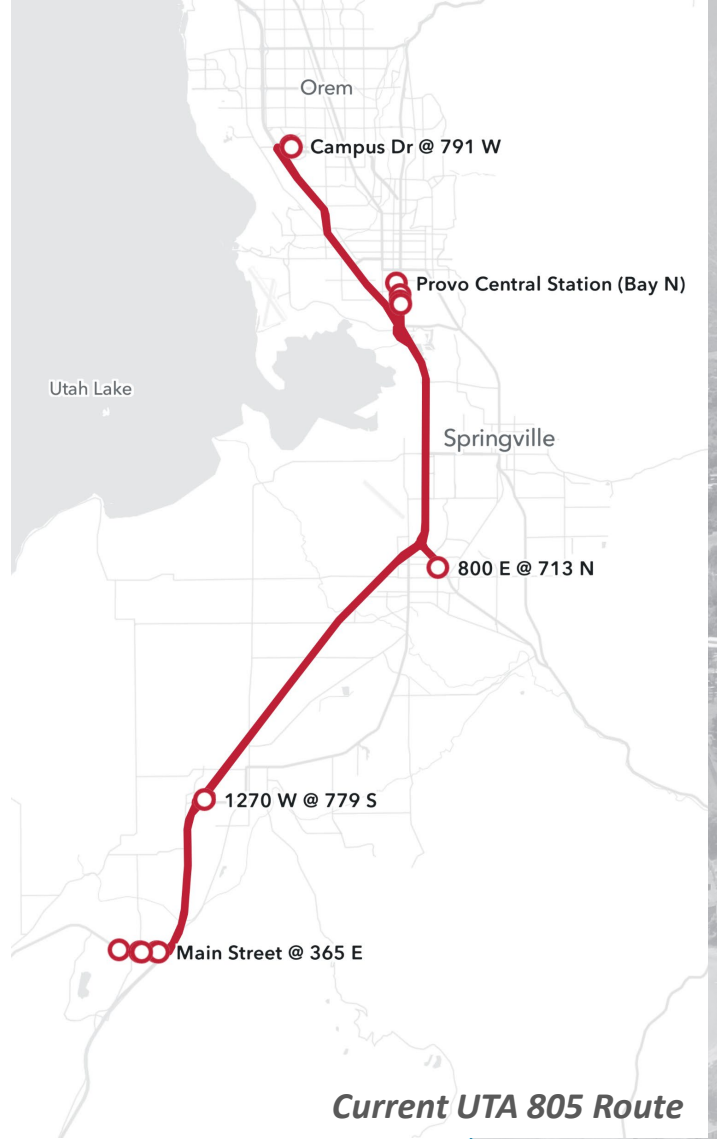
2

Initial Evaluation – Other Findings



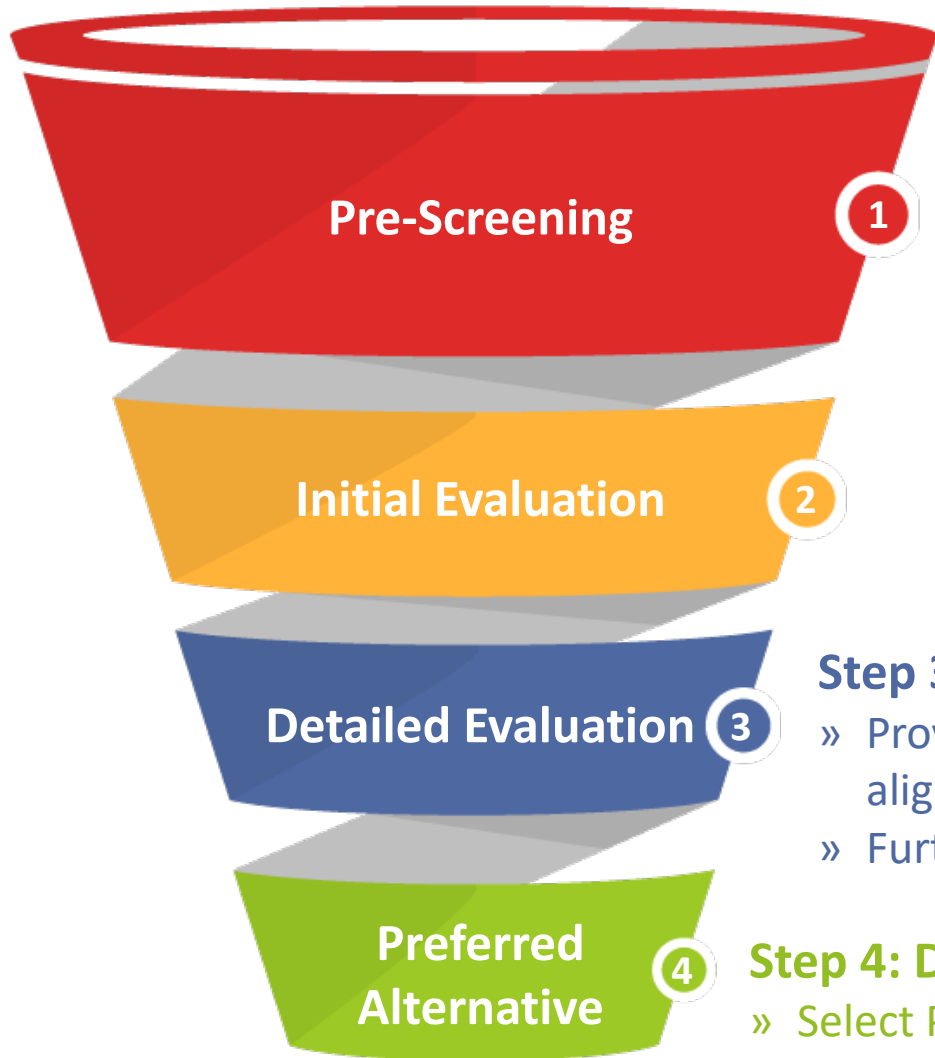
➤ Other key takeaways

- Transit Alternatives along the State/Main corridor should continue to be explored for more localized service, just doesn't meet this project's Purpose and Need
- Express Bus on I-15 could still be considered as a possible phasing element while the long-term project is being developed, funded, and constructed



Current UTA 805 Route

Alternatives Evaluation Roadmap – Future Steps

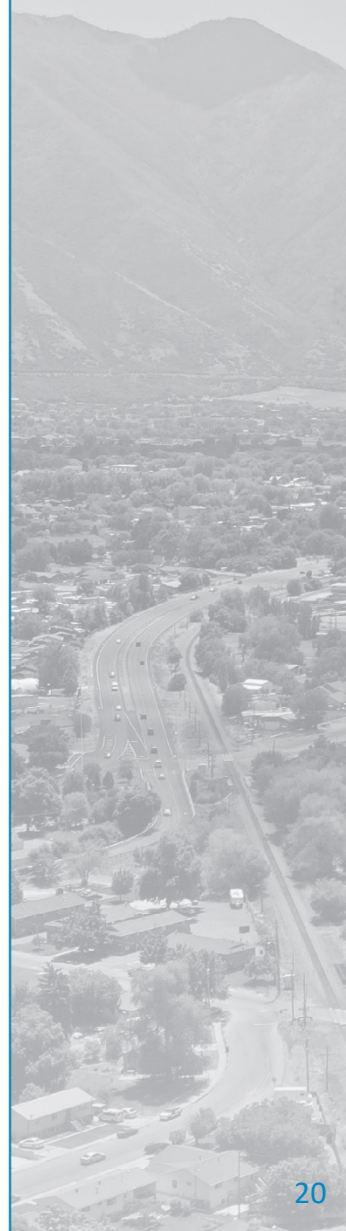


Step 3: Evaluate alternatives in more detail

- » Provide greater definition (identify service assumptions, stations, alignment details)
- » Further narrowing of alternatives

Step 4: Develop Implementation Plan

- » Select Preferred Alternative
- » Consider potential phasing options



3

Detailed Evaluation – how to decide?



➤ Potential evaluation criteria:

- Transit travel times
- Transit reliability
- Transit connections
- **Transit ridership and transit trips**
- **Station area accessibility**
- Transportation impacts
- **Transit-supportive zoning**
- **Development/redevelopment potential**
- **Equity and access to opportunity**
- **Capital cost estimate**
- **O&M cost estimate**
- Constructability considerations
- Operational considerations
- Environmental considerations
- **Phase and implementation considerations**

Detailed evaluation:

- ❖ Conceptual engineering and cost estimating
- ❖ Ridership forecasting using model

Detailed evaluation criteria are:

- ❖ In-depth
- ❖ More quantitative
- ❖ Diving into greater detail



4

Implementation – how do we implement the Preferred Alternative?



Based on additional analysis of ...

- » Ridership (model runs by 2030, 2040, 2050, and by geographic extent of service)
- » Cost (capital and O&M)
- » Readiness of development/land use and associated infrastructure projects (i.e. future interchanges)
- » Other key differentiating factors from detailed evaluation



4

Implementation Options – *Example*



Implementation Options for **Example** Preferred Alternative:

No phasing

- Full Commuter Rail buildout by 20XX

Geographic or Timing Phasing

- Extend Commuter Rail to Springville in 20XX
- Extend Commuter Rail to Spanish Fork/Payson in 20YY
- Extend Commuter Rail to Santaquin by 20ZZ

Phasing of Modes

- Expand express bus service frequency + create permanence in identified station areas by 20XX
- Provide full dedicated lanes for buses by 20YY
- Full Commuter Rail buildout by 20ZZ

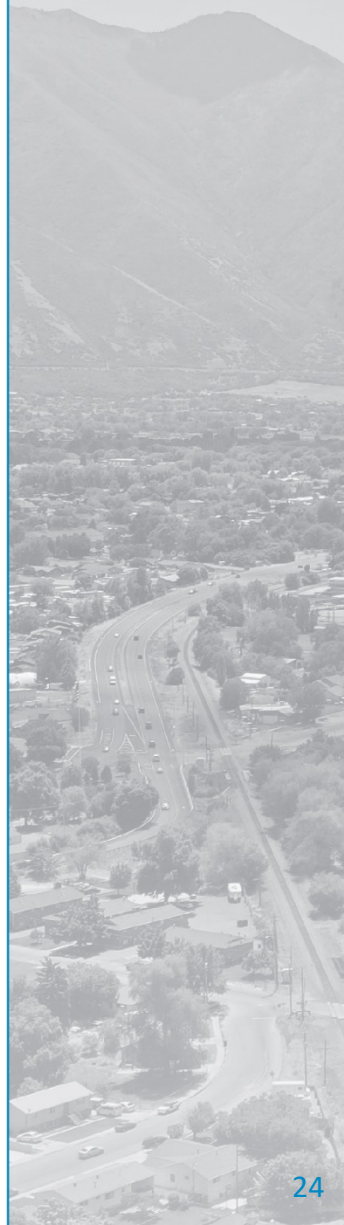
Mix and Match of Above

EXAMPLE	Frequency Assumptions	Operational Assumptions	Stations
Alternative Commuter Rail 1 <ul style="list-style-type: none"> • Commuter rail operating in exclusive facility 	All day service – 30 min peak, 60 min off peak	One-seat ride	1, 2, 3, 4



Stakeholder Engagement Update

- Specific engagement: community-specific approaches have been planned
 - Will partner with cities to implement customized approaches (based on feedback)
- Promoting Engagement
 - Promo content to share with each partnering organization and city to post and promote SVTS with community
- Underrepresented communities – community partner to support engagement with Spanish-speaking and Latino/Hispanic community
- Coming up: public feedback on Purpose & Need and Initial Range of Alternatives through website



Next Steps and Workshop Wrap-up

- Executive Committee meeting – March 11th
 - Please brief elected officials or representatives before meeting if possible

- Begin Detailed Evaluation of Alternatives
 - March through May

- Kicking off land use planning task
 - Mid-late March with combined workshop

