The Challenge

Source: Governor's Office of Management and Budget (GOMB), 2012 Baseline Projections and the U.S. Census Bureau, 2010
The Challenge

LOTS OF PEOPLE
 NOT MUCH SPACE
 LOTS MORE TRAVEL
The Challenge
The Partnership

WASATCH FRONT CENTRAL CORRIDOR STUDY 2050

MOUNTAINLAND ASSOCIATION OF GOVERNMENTS

UTDOT
Keeping Utah Moving

UTA

WASATCH FRONT REGIONAL COUNCIL

U.S. Department of Transportation
Federal Highway Administration
Planning Differently

I-15 Lanes Needed by 2050

Current I-15 Lanes at 7200 South

Only Solution Considered

Planning Differently
Refined Scenarios
SCENARIO 1: Balances managing existing infrastructure more efficiently with building more infrastructure

MANAGE MORE

I-15
Barrier-separated lanes exclusively for carpooling and enhanced variable-pricing to help reduce congestion

Surface Streets
Improved street connections

Transit
No-fare transit
Transit lanes and carpool lanes on arterials

Active Transportation
Cycle superhighway
Extensive active transportation networks
Technology and design strategies that improve bike/ped safety

Programs
Pay-per-use transportation apps
Prioritized transportation projects around Transit Oriented Developments (TODs)
Incentive strategy to promote more efficient travel choices

BUILD MORE
SCENARIO 2: Tightly manages the existing transportation network to use available travel space and seats more efficiently

MANAGE MORE

I-15
- Enhanced variable-pricing on all non-carpool I-15 lanes during rush hours to reduce congestion
- Barrier-separated lanes exclusively for carpooling and enhanced, premium variable-pricing to help reduce congestion
- "Freight-encouraged" lane

Surface Streets
- Driveway consolidation (access management) on select arterials
- Reversible lanes on select arterials
- Managed lanes network

Transit
- FrontRunner double-tracked and electrified
- TRAX station platform extensions
- No-fare transit
- Increased transit frequency
- Dedicated bus lanes on arterials with transit signal priority

BUILD MORE

Programs
- Comprehensive Travel Demand Management program
SCENARIO 3: Invests significant funding into building more infrastructure to meet projected travel demands

MANAGE MORE

I-15
- Expanded collector-distributor system
- Double-decked I-15
- Reversible lanes

Surface Streets
- New capacity on arterials for transit lanes and Express Lanes with grade-separated intersections

Transit
- FrontRunner double-tracked and electrified
- More FrontRunner stations

Active Transportation
- Extensive active transportation networks
- Buffered bike lanes or cycle tracks on arterials
- Cycle superhighway

BUILD MORE

Programs
- Regional mixed-use transportation hubs
- Pay-per-use transportation apps
Transportation Goals

- Improve Safety
- Increase Person Throughput
- Improve Travel Time Reliability
- Increase Accessibility to Jobs & Education
- Improve Air Quality
- Improve Economic Outcomes
- Reduce Household Transportation Costs
- Improve Mode Balance
# Refined Scenarios Comparison

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Scenario 1:</th>
<th>Scenario 2:</th>
<th>Scenario 3:</th>
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</thead>
<tbody>
<tr>
<td>Access to Employment</td>
<td>WORST</td>
<td>BEST</td>
<td>MODERATE</td>
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<tr>
<td>Air Quality</td>
<td>MODERATE</td>
<td>BEST</td>
<td>MODERATE</td>
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<tr>
<td>Benefit/Cost Ratio</td>
<td>BEST</td>
<td>BEST</td>
<td>BEST</td>
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<tr>
<td>Household Travel Costs</td>
<td>BEST</td>
<td>BEST</td>
<td>MODERATE</td>
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<tr>
<td>Households Walk/Bike Distance from Transit</td>
<td>BEST</td>
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<td>MODERATE</td>
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<tr>
<td>Injuries and Fatalities</td>
<td>WORST</td>
<td>WORST</td>
<td>WORST</td>
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<tr>
<td>Jobs Created</td>
<td>MODERATE</td>
<td>MODERATE</td>
<td>MODERATE</td>
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<tr>
<td>Market Value of Goods and Services</td>
<td>BEST</td>
<td>BEST</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Percent of I-15 Vehicle Seats Used</td>
<td>MODERATE</td>
<td>MODERATE</td>
<td>MODERATE</td>
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<tr>
<td>Percent of Transit Seats Used</td>
<td>MODERATE</td>
<td>MODERATE</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Personal Income</td>
<td>BEST</td>
<td>BEST</td>
<td>MODERATE</td>
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<tr>
<td>Reduction of Single-Occupancy Vehicles</td>
<td>BEST</td>
<td>BEST</td>
<td>MODERATE</td>
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<tr>
<td>Reduction of Single-Occupancy Vehicles to Access Transit</td>
<td>MODERATE</td>
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<tr>
<td>Total People Moved</td>
<td>MODERATE</td>
<td>MODERATE</td>
<td>MODERATE</td>
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<tr>
<td>Travel Time</td>
<td>MODERATE</td>
<td>MODERATE</td>
<td>MODERATE</td>
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<tr>
<td>Travel Time Reliability</td>
<td>WORST</td>
<td>WORST</td>
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**Overall Ranking:**
- Scenario 1: WORST
- Scenario 2: BEST
- Scenario 3: MODERATE
Hybrid Mobility Scenario
Hybrid Mobility Scenario

I-15
- Expanded collector-distributor system
- Enhanced variable-pricing on all non-carpool I-15 lanes during rush hours to reduce congestion
- Barrier-separated lanes exclusively for carpooling and enhanced, premium variable-pricing to help reduce congestion

Surface Streets
- Improved street connections
- Driveway consolidation (access management) on select arterials
- Managed Lanes Networks (includes transit/Express Lanes on arterials)

Transit
- No-fare transit
- Double FrontRunner frequency - Double-track and electrify
- Double bus service - Increase frequency
- Double TRAX frequency - Extend TRAX stations (longer trains)

Active Transportation
- Cycle superhighway
- Buffered bike lanes
- Extensive active transportation networks

Programs
- Pay-per-use transportation apps
- Choice Architecture - Incentive strategy to promote more efficient travel choices [Travel Demand Management (TDM) strategy]
- Mobility hubs - Regional mixed-use transportation hubs
- Comprehensive and voluntary TDM strategies
Hybrid Mobility Scenario

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Programs
- Pay-per-use transportation apps
- Choice Architecture - Incentive strategy to promote more efficient travel choices (Travel Demand Management (TDM) strategy)
- Mobility hubs - Regional mixed-use transportation hubs
- Comprehensive and voluntary TDM strategies

Increases Accessibility to Jobs Via Transit
Increased transit frequency and faster FrontRunner speeds provide more and quicker options to get to work sites via transit.
Hybrid Mobility Scenario

**Doubles Transit Ridership**
The combination of variable freeway pricing, increased transit frequency and no-fare transit doubles projected 2050 transit ridership in the study area.

**Reduces Future Travel Times**
This combination also produces considerably faster travel times than would exist without managing the transportation network. For example, projected 2050 travel times from Salt Lake City to Lehi decrease by 17 minutes in the I-15 non-carpool lanes and by 13 minutes in the barrier-separated Express Lanes as compared to the study's Scenario 0, which assumes many of the projects in the 2040 Regional Transportation Plans are built by 2050, but does not include the solutions in the Hybrid Mobility Scenario.
## Hybrid Mobility Scenario

### I-15
- Expanded collector-distributor system
- Enhanced variable-pricing on all non-carpool I-15 lanes during rush hours to reduce congestion
- Barrier-separated lanes exclusively for carpooling and enhanced, premium variable-pricing to help reduce congestion

### Surface Streets
- Improved street connections
- Driveway consolidation (access management) on select arterials
- Managed Lanes Networks (includes transit/Express Lanes on arterials)

### Transit
- No-fare transit
- Double FrontRunner frequency - Double-track and electrify
- Double bus service - Increase frequency
- Double TRAX frequency - Extend TRAX stations (longer trains)

### Active Transportation
- Cycle superhighway
- Buffered bike lanes
- Extensive active transportation networks

### Programs
- Pay-per-use transportation apps
- Choice Architecture - Incentive strategy to promote more efficient travel choices (Travel Demand Management (TDM) strategy)
- Mobility hubs - Regional mixed-use transportation hubs
- Comprehensive and voluntary TDM strategies

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**Improves Travel Time Reliability**

Variable pricing reduces the number of cars on the freeway, improving travel time reliability and reducing travel time.
The Hybrid Mobility Scenario assumes that many study-area projects in the unfunded or vision phases of the WFRC and MAG 2040 Regional Transportation Plans will be built by 2050.

These projects could include:

• Widening 14600 South, Redwood Road and the Mountain View Corridor
• Several Bus Rapid Transit and Enhanced Bus projects
HYBRID MOBILITY SCENARIO MAP

I-15
- Expanded Collector-Distributor System
- Barrier Separated Carpool/Premium Lanes
- Variable-Pricing on All Lanes During Rush Hour
- Managed Lanes Networks*

Surface Streets
- Bike/Ped/Vehicle Overpasses
- Driveway Consolidation on Select Arterials

Transit
- New FrontRunner Stations
- Doubletrack and Electrify FrontRunner
  - No-Fare Transit*
  - Double Bus Services - Increase Frequency*
  - Double TRAX Frequency - Extend TRAX Stations (Longer Trains)*

Active Transportation
- Cycle Super Highways
- Buffered Bike Lanes
- East-West Salt Lake County Trails
- First-Last Mile Connections
- Bicycle/Pedestrian Only Overpasses

Programs
- Mobility Hubs
  - Choice Architecture/Comprehensive and Voluntary Travel Demand Management (TDM) Strategies*

* = Elements not represented on map, as they encompass the entire study area

The study includes Mobility Hubs and New FrontRunner Stations in Weber, Northern Davis and Utah Counties.
Process and Next Steps

**INITIAL SCENARIOS**
Fall 2015-Spring 2016
Developed and discussed conceptual scenarios
Stakeholder Workshops

**REFINED SCENARIOS**
Summer-Fall 2016
Analyzed transportation and economic impacts and fiscal sustainability of scenarios
Small-Area Meetings

**HYBRID MOBILITY SOLUTIONS**
End of 2016-Early 2017
Identified Hybrid Mobility Solutions
Final Report

**REGIONAL TRANSPORTATION PLAN INTEGRATION**
2017-2019
Integrate solutions from the study into various cycles of the WFRC and MAG 2019-2050 Regional Transportation Plans (RTPs) and the Utah Unified Plan
Ongoing Public Involvement

*Current Phase*
Additional study information available at wfccstudy.org
Title

- Bullet
Utah’s Future
Utah’s Future

DRIVERLESS VEHICLE INVESTORS

- 33 Corporations
- Federal Government
Utah’s Future

PERCENT OF U.S. WORKFORCE THAT HAS TELECOMMUTED

1995 9%

2015 37%
Utah’s Future

**MILLENIALS (AGE 16-36 TODAY)**

1/4 of U.S. population in 2000
Now exceed baby boomers
55% prefer public transportation options
In 2050 millennials will be 50-70 years old

**AGE 65+ AMERICANS**

- **2000**: 1 in every 8
- **2050**: 1 in every 5
The Utah Way

- Legacy Parkway: $0.8 B
- TRAX Light Rail: $1.9 B
- Mountain View Corridor: $1.5 B
- FrontRunner Commuter Rail: $1.5 B
- I-15 Rebuild: $1.3 B
- I-15 CORE: $1.7 B
Seat Utilization – 3300 South

<table>
<thead>
<tr>
<th>SEATING CAPACITY</th>
<th>OCCUPIED SEATS</th>
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<tbody>
<tr>
<td>Northbound</td>
<td>Southbound</td>
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<tr>
<td>A.M. PEAK HOUR (7-8 A.M.)</td>
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<tr>
<td>FrontRunner</td>
<td>TRAX Blue</td>
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<tr>
<td>Occupied Seats</td>
<td>Thousands</td>
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<tr>
<td>Northbound</td>
<td>Southbound</td>
</tr>
<tr>
<td>P.M. PEAK HOUR (4-5 P.M.)</td>
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<tr>
<td>FrontRunner</td>
<td>TRAX Blue</td>
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<tr>
<td>Occupied Seats</td>
<td>Thousands</td>
</tr>
</tbody>
</table>

32%* Total Utilization
32%* Total Utilization
31%* Total Utilization
35%* Total Utilization

* Percent of vehicle and transit seats in use
New Solutions – Surface Streets

How could we move more people more efficiently on surface streets?
New Solutions – Transit

How could we double transit ridership?
New Solutions – Active Transportation

How could we help more people bike and walk?
Preliminary Scenario Costs and Benefits

Compared to Baseline Scenario (all costs in millions)

TOTAL SCENARIO SUMMARY

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Costs (in millions)</th>
<th>Benefits (in millions)</th>
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<tbody>
<tr>
<td>Scenario 1</td>
<td>$910.19</td>
<td>$3,194.20</td>
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<tr>
<td>Scenario 2</td>
<td>$2,969.48</td>
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<tr>
<td>Scenario 3</td>
<td>$3,326.53</td>
<td>$1,143.05</td>
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COST BREAKDOWN

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<thead>
<tr>
<th>Scenario</th>
<th>Capital</th>
<th>Road O&amp;M</th>
<th>Transit O&amp;M</th>
<th>Benefit/Cost Ratio</th>
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<tr>
<td>Scenario 1</td>
<td>$1,062.88</td>
<td>$6.86</td>
<td>$-159.55</td>
<td>3.51</td>
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<td>Scenario 2</td>
<td>$1,614.45</td>
<td>$5.81</td>
<td>$1,349.22</td>
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<td>Scenario 3</td>
<td>$2,977.76</td>
<td>$9.50</td>
<td>$339.27</td>
<td>0.34</td>
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BENEFIT BREAKDOWN

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<thead>
<tr>
<th>Scenario</th>
<th>Travel Time Savings</th>
<th>Vehicle Operating Savings</th>
<th>Casualties Prevented</th>
<th>Emissions Saved</th>
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<tbody>
<tr>
<td>Scenario 1</td>
<td>$1,268.57</td>
<td>$921.44</td>
<td>$940.66</td>
<td>$63.52</td>
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<tr>
<td>Scenario 2</td>
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<td>Scenario 3</td>
<td>$1,219.70</td>
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