Presentation To
RMRA Feasibility Study
Steering Committee

Feasibility Update
February 27, 2009

Study Work Schedule: Tasks 1 thru 4.4.2
February Public Involvement Update

- Finalized and attained approval on stakeholder email blast
  - Distributed on 2/25 to nearly 1,000 contacts

- Community Partnership Program Materials
  - Newsletter Article
  - Station Map
  - Alternatives Fact Sheet

- Distributed Community Partnership Program Materials to 120+ organizations on 2/25

- Continued coordination w/ I-70 Coalition and other studies (e.g. Gaming Area EIS)
Engineering Segments:
Unconstrained Rail Network

Engineering Segments:
Constrained Rail and Maglev Network
Operations: I-25 South – Joint Line

- Rail Corridor Consists of two tracks – former DRGW (UP) and ATSF (BNSF) alignment
  - Proposing to “undo” USRA-era mix and match that has been in place since 1918
  - This becomes the starting point for a further program of curve easements
  - Almost completely separate freight from passenger operations

Joint Line: Nixon Power Plant

Former ATSF Alignment paralleling I-25
Joint Line and Spanish Peak Lines

- **Joint Line, Littleton to Pueblo**
  - **With R2C2** - ATSF alignment used for passengers; DRGW for freight. Equip DRGW with bi-directional Traffic Control and 2 mile passing sidings at 10 mile intervals (same as parallel R2C2 line freight configuration.)
  - **Without R2C2** – Fully replace the ATSF track by double tracking the DRGW alignment for freight with universal crossovers every 8-10 miles (except possibly from Palmer Lake to Colorado Springs where the passenger system builds its own track on the abandoned ATSF grade.)

- **Spanish Peaks Line, Pueblo to Trinidad**
  - **With R2C2** – Spanish Peaks line will lose most of its freight traffic (Empty coal trains) as a result of R2C2 diversion. Upgrade one of the two tracks from Pueblo to Walsenburg to 110-mph, and single track from Walsenburg to Trinidad to best available speed based on curvature.
  - **Without R2C2** – Upgrade one of the two tracks Pueblo to Walsenburg to 110-mph and co-mingle with freight (empty coal trains) at 79-mph from Walsenburg to Trinidad.

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Joint Line: Littleton to DUS

In these areas, some freight tracks on 14' center to Light Rail. Shift freight track to make room and widen track centers to LRT.
Joint Line Bridges over C-470

Rail Tracks Converging South of LRT
End of LRT South of Mineral Station

Littleton Trench
**LRT Flyover Looking South**

**Four Tracks South of LRT Flyover**

Four Tracks Here already!
Freight on 14’ Center to LRT Track

Parked Freights at Mississippi Ave

Trains awaiting Crew Change, also showing room to add track on bridge
View South of CML at Curtis Street

This area will be reconfigured by RTD West Light Rail

Arriving DUS on Joint Line
### Alternative Denver Station Sites

- **16th Street Site**
  - Provides through movement from DIA to Golden Line (Via Arvada) – but requires movement through Pullman Yard as well as new track connections at Prospect Jct.

- **Broadway Site**
  - Provides through movement from DIA to Golden Line (Via Arvada) – but requires movement through Pullman Yard as well as new track connections at Prospect Jct.

### Joint Line and CML

- **Joint Line and CML, Denver to Littleton**
  - **With R2C2**
    - Detailed capacity simulation will be required to finalize freight requirements and ultimately determine the necessity of capital improvements through the area:
      - Tentatively, plan to add a track for bypassing the freight train staging area between South Denver and Englewood. The passenger track would “buffer” between the freight and LRT tracks and would extend 9 miles, all the way from the LRT flyover to DUS.
  - **Without R2C2**
    - In addition to above improvements:
      - Maximally extend the length of the freight train staging area to the north end of the Littleton trench by adding switches at Crestline Avenue. Adding a fourth track here may require shifting the LRT tracks onto the “Electron Lead” to make room.
      - Additionally, based on the result of the line capacity simulation, if necessary to mitigate freight capacity needs, construct an aerial rail structure to carry the passenger line through. (An alternative may be either to tunnel, or else to displace LRT out of the trench to surface running.)
### Speed/Frequency Ridership Scenarios for Typical High Speed Corridors

<table>
<thead>
<tr>
<th>Trains / day</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
<th>18</th>
<th>20</th>
<th>24</th>
<th>30</th>
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<td>79 mph</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>110-125 mph</td>
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<td>X</td>
<td>X</td>
<td></td>
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<td>150 mph</td>
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<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200 mph</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>300 mph</td>
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<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Market Analysis: Winter Surveys

- **Goals – Three Distinct Survey Types**
  - “Abstract Mode” surveys quantify how much travelers value time (VOT)
  - “Transfer” surveys evaluate penalty associated with changing trains/modes
  - “Bias” surveys evaluate modal bias Air vs. Rail and Auto vs. Rail

- **Approach**
  - Quota Surveys with individual “Sample Frame” Targets by Sub-Group (e.g. Trip Length, Mode, Trip Purpose).

- **Survey Implementation**
  - Fall Survey was targeted Primarily at Colorado Resident and non-seasonal tourism.
  - Winter Survey (completed) focused on Resort tourism:
    - DIA Survey of Colorado intra-state flights (VOT, Bias and Transfer survey versions)
    - Ski Resort surveys at Copper Mountain and Vail (VOT, Bias and Transfer survey versions)
    - Casino surveys at Central City (VOT version only)
## Fall and Winter Survey Objectives

<table>
<thead>
<tr>
<th>Location</th>
<th>Fall</th>
<th>Winter</th>
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<tbody>
<tr>
<td>Denver Int’l Airport</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Buses (RTD/FREX/Greyhound)</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>Ski Resorts</td>
<td></td>
<td>✗</td>
</tr>
<tr>
<td>Gaming Resorts</td>
<td></td>
<td>✗</td>
</tr>
<tr>
<td>Amtrak</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>DMV</td>
<td></td>
<td>✗</td>
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</table>

## Final Survey Locations and Dates

**SURVEY DATES**
- ★ SUMMER
- ★★ WINTER
- ★★★ BOTH
Winter Survey Actual Deployment

Survey Team Actual Deployment

<table>
<thead>
<tr>
<th></th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
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<tr>
<td>DIA Airport Survey</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vail Resorts Pilot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central City Gaming Survey</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telluride and Copper Mountain</td>
<td></td>
<td></td>
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</table>

Survey Tally

<table>
<thead>
<tr>
<th>Location</th>
<th>Results</th>
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<tbody>
<tr>
<td>Fall Survey . . .</td>
<td>2,808</td>
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<tr>
<td>Winter DIA</td>
<td>342</td>
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<tr>
<td>Central City</td>
<td>74</td>
</tr>
<tr>
<td>Ski Resorts</td>
<td>499</td>
</tr>
<tr>
<td>Subtotal</td>
<td>915</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3,723</td>
</tr>
</tbody>
</table>

Differences in Fall vs. Winter Surveys

- Besides the three different survey versions administered (VOT, Bias, Transfer) the target populations were different:
  - DIA Surveys
    - The Fall DIA Survey targeted local Colorado Residents and screened out connecting passengers.
    - The Winter DIA Survey targeted all resort travelers on intra-state flights, including both local and connecting passengers.
  - Urban and Resort Surveys
    - The Fall Surveys at DMV, Rail and Bus stations targeted local Colorado Residents.
    - The Winter resort surveys targeted both “Day Trip” and “Destination” resort travelers.
**Winter Resort Survey Questionnaire**

**Classification Questions on Left**

1. What is your travel destination?
   - Aspen
   - Breckenridge
   - Vail
   - Other

2. How often do you travel to the mountains?
   - Once a year
   - Several times a year
   - Monthly
   - Daily

3. Do you prefer to travel on the weekends or weekdays?
   - Weekends
   - Weekdays
   - Both

4. Are you more of a skier or a snowboarder?
   - Skier
   - Snowboarder
   - Both

5. What is your primary mode of transportation?
   - Car rental
   - Carshare
   - Driving your own car
   - Public transportation

6. What is the main reason for your trip?
   - Vacation
   - Family
   - Work
   - Other

**Tradeoff Questions on Right**

7. Would you prefer a hotel with a pool or a spa?
   - Pool
   - Spa
   - Both

8. Are you willing to pay more for a room with a view?
   - Yes
   - No

9. Do you prefer a hotel with a gym or a fitness center?
   - Gym
   - Fitness center
   - Both

10. Are you more interested in the history or the culture of the area?
    - History
    - Culture
    - Both

11. Would you prefer a hotel with a restaurant on-site or nearby?
    - On-site
    - Nearby
    - Both

12. Are you more interested in the nightlife or the activities on the slopes?
    - Nightlife
    - Activities
    - Both

**Winter Survey Anecdotes**

- **Flier on Aspen air connection**
  - Felt that flying to Aspen was cheaper than renting a car for 10 days, and not needing the car

- **Copper Mountain destination traveler**
  - Staying in a time-share at Silverthorne, needs a car to get to and from the house. Wanted to know about availability of local rental cars at the train station

- **Day tripper on Season Pass**
  - Not particularly time sensitive, since they have a season pass to the ski slopes and don’t care if they have all day on the slopes.

- **Central City casino visitor**
  - Comes to gamble several times a week; enjoys the scenery and considers the ride up to be a part of the outing.
Demand Update: COMPASS™ Model Structure

- Stated Preference Survey
- Origin-Destination Data
- Four-Mode Transport Network
  - Trip Matrices
  - Economic Scenarios
  - Rail Strategies
- Demand Model Calibration
- Base Year Socio-Economics
- User Benefit Analysis
- Forecast Year Trip Matrices
- Economic Rent Analysis
- Revenue Analysis
- Financial Analysis

Zone System

- Wyoming
- Nebraska
- South Dakota
- Utah
- Arizona
- Texas
- Oklahoma
- Colorado
- New Mexico
Colorado Economic Scenarios: State Demography Office & TEMS High, Central and Low Case – Population Growth

- High Case
- Central Case (SDO, BEA and MPOs combined)
- Low Case (BEA)

Average Annual Growth Rates (%):
- High Case: 2.0
- Central Case: 1.8
- Low Case: 1.4

2035 High-Low Range - 9%

Colorado Economic Scenarios: High, Central and Low Cases – Real Average Household Income Growth

Average Annual Growth Rates (%):
- Low Case: 1.2
- Central Case: 1.0
- High Case: 0.8
Colorado Economic Scenarios: High, Central and Low Case – Employment Growth

![Graph showing employment growth scenarios from 2000 to 2040. The graph compares Central Case (SDO, BEA and MPOs combined), Low Case (SDO and BEA), and High Case scenarios. The average annual growth rates are indicated as 1.7%, 1.8%, and 2.0% for Low, Central, and High cases, respectively.]

Base Highway Network

![Map of the Base Highway Network in Colorado, showing major highways and interstates. The map includes labels for various cities such as Denver, Colorado Springs, and Pueblo.]

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# Future Rail Network

![Map of Future Rail Network](image)

## Generalized Cost Components

<table>
<thead>
<tr>
<th></th>
<th>Public Modes</th>
<th>Auto</th>
</tr>
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<tbody>
<tr>
<td><strong>Time</strong></td>
<td>In-vehicle Time</td>
<td>Travel Time</td>
</tr>
<tr>
<td></td>
<td>Access/Egress Time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of Interchanges</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Connection Wait Times</td>
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</tr>
<tr>
<td></td>
<td>Terminal Wait Times</td>
<td></td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td>Fare</td>
<td>Operating Costs</td>
</tr>
<tr>
<td></td>
<td>Access/Egress Costs</td>
<td>Tolls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(all divided by occupancy)</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>On Time Performance</td>
<td></td>
</tr>
<tr>
<td><strong>Schedule</strong></td>
<td>Frequency of Service</td>
<td>Convenience of Times</td>
</tr>
</tbody>
</table>
VOT and VOF are needed to define Travel Utility Equation for the Networks

\[ U_{ij} = f(GC_{ijp}) \]

Where

\[ GC_{ijp} = \text{Generalized cost of travel between zones } i \text{ and } j \text{ for purpose } p \]

\[ GC_{ijmp} = TT_{ijm} + \frac{TC_{ijmp}}{VOT_{mp}} + \frac{VOF_{mp} \times OH}{VOT_{mp} \times F_{ijm}} \]

Where

\[ TT_{ijm} = \text{Travel time between zones } i \text{ and } j \text{ for mode } m \text{ (in-vehicle time + waiting time + delay time + connect time + access/egress time + interchange penalty), with waiting, delay, connect and access/egress time multiplied by two to account for the additional disutility felt by travelers for these activities} \]

\[ TC_{ijmp} = \text{Travel cost between zones } i \text{ and } j \text{ for mode } m \text{ and purpose } p \text{ (fare + access/egress cost for public modes, operating costs for auto)} \]

\[ VOT_{mp} = \text{Value of Time for mode } m \text{ and purpose } p \]

\[ VOF_{mp} = \text{Value of Frequency for mode } m \text{ and purpose } p \]

\[ F_{ijm} = \text{Frequency in departures per week between zones } i \text{ and } j \text{ for mode } m \]

\[ OH = \text{Operating hours per week} \]

Values of Time $/hr

<table>
<thead>
<tr>
<th>Modes</th>
<th>Trip Purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Business</td>
</tr>
<tr>
<td>Transit</td>
<td>$13.20</td>
</tr>
<tr>
<td>Rail</td>
<td>$16.07</td>
</tr>
<tr>
<td>Auto</td>
<td>$18.91</td>
</tr>
<tr>
<td>Air</td>
<td>$48.69</td>
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</table>
Coverage of Existing Colorado Data Intercity Trips (greater than 55 miles)

<table>
<thead>
<tr>
<th>Origin</th>
<th>Destination</th>
<th>Data Available</th>
<th>Data Unavailable</th>
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<tbody>
<tr>
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<td>2</td>
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<td></td>
</tr>
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<td>...</td>
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<tr>
<td>159</td>
<td>178</td>
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<td>...</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Zones</th>
<th>Total</th>
<th>Existing Data</th>
<th>Percentage Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>178</td>
<td>159</td>
<td>79.79%</td>
</tr>
<tr>
<td>Trips per year</td>
<td>4.9 Million</td>
<td>4.6 Million</td>
<td>93.70%</td>
</tr>
</tbody>
</table>

Base Year Trip Summary Intercity Trips (greater than 55 miles)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Car</th>
<th>Bus</th>
<th>Air</th>
<th>Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trips</td>
<td>100,200,000</td>
<td>2,960,000</td>
<td>150,503</td>
<td>831,982</td>
</tr>
<tr>
<td>Market Share</td>
<td>96.21%</td>
<td>2.84%</td>
<td>0.14%</td>
<td>0.80%</td>
</tr>
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</table>
Preliminary Base Year Rail Ridership

Railroad Station Traffic: Passenger Volumes (trips greater than 55 miles)

Amtrak Service: 2 trains per day
## Total Demand

<table>
<thead>
<tr>
<th>Mode</th>
<th>$\alpha$</th>
<th>$\beta_1$ Coef</th>
<th>$\beta_1$ t Stat</th>
<th>$\beta_2$ Coef</th>
<th>$\beta_2$ t Stat</th>
<th>$R^2$</th>
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<tbody>
<tr>
<td>Business</td>
<td>-9.13974</td>
<td>0.470345</td>
<td>57.304</td>
<td>0.920915</td>
<td>307.218</td>
<td>0.819</td>
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<tr>
<td>Commuter</td>
<td>-10.1815</td>
<td>0.505322</td>
<td>44.382</td>
<td>0.960207</td>
<td>247.942</td>
<td>0.767</td>
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<tr>
<td>Tourist</td>
<td>-14.9839</td>
<td>0.573926</td>
<td>117.992</td>
<td>0.956997</td>
<td>228.389</td>
<td>0.643</td>
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<tr>
<td>Other</td>
<td>-3.08006</td>
<td>0.26977</td>
<td>19.965</td>
<td>0.742494</td>
<td>168.657</td>
<td>0.613</td>
</tr>
</tbody>
</table>

\[
\text{Ln(Trip)} = \alpha + \beta_1 \times \text{Ln(SE)} + \beta_2 \times U_{Total}
\]

where

\[
U_{Total} = \text{Ln}\left(e^{1.534404 + 1.094316 \text{U}_{\text{Public}} + e^{-0.03927 \text{GC}_{\text{Auto}}}}\right) \quad \text{for Business}
\]

\[
U_{Total} = \text{Ln}\left(e^{3.825372 + 0.971898 \text{U}_{\text{Public}} + e^{-0.044539 \text{GC}_{\text{Auto}}}}\right) \quad \text{for Commuter}
\]

\[
U_{Total} = \text{Ln}\left(e^{1.801322 + 0.984576 \text{U}_{\text{Public}} + e^{-0.04755 \text{GC}_{\text{Auto}}}}\right) \quad \text{for Tourist}
\]

\[
U_{Total} = \text{Ln}\left(e^{1.605536 + 0.948322 \text{U}_{\text{Public}} + e^{-0.075726 \text{GC}_{\text{Auto}}}}\right) \quad \text{for Other}
\]

## Mode Split – Base Hierarchy: Slow Speed
**Rail Mode vs Bus Mode – Level 1**

\[ \ln\left( \frac{P_{\text{Rail}}}{P_{\text{Bus}}} \right) = \alpha + \beta_1 \times GC_{\text{Rail}} - \beta_2 \times GC_{\text{Bus}} \]

<table>
<thead>
<tr>
<th></th>
<th>( \alpha )</th>
<th>( \beta_1 )</th>
<th>( \beta_2 )</th>
<th>( R^2 )</th>
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<tbody>
<tr>
<td>Business</td>
<td>0.53889</td>
<td>8.568</td>
<td>-0.01111</td>
<td>-81.952</td>
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<td>Commuter</td>
<td>0.990313</td>
<td>18.936</td>
<td>-0.0255</td>
<td>-210.949</td>
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<tr>
<td>Tourist</td>
<td>2.551864</td>
<td>22.065</td>
<td>-0.01078</td>
<td>-67.8733</td>
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<tr>
<td>Other</td>
<td>-2.57302</td>
<td>-20.7771</td>
<td>-0.0157</td>
<td>-66.2623</td>
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</tbody>
</table>

**Surface Modes vs Air Mode – Level 2**

\[ \ln\left( \frac{P_{\text{Surface}}}{P_{\text{Air}}} \right) = \alpha + \beta_1 \times U_{\text{Surface}} - \beta_2 \times GC_{\text{Air}} \]

where

- \( U_{\text{Surface}} = \ln\left( e^{0.53899 - 0.01111 \times GC_{\text{Rail}}} + e^{-0.04475 \times GC_{\text{Bus}}} \right) \) for Business
- \( U_{\text{Surface}} = \ln\left( e^{0.990315 - 0.0255 \times GC_{\text{Rail}}} + e^{-0.028183 \times GC_{\text{Bus}}} \right) \) for Commuter
- \( U_{\text{Surface}} = \ln\left( e^{2.551864 - 0.01078 \times GC_{\text{Rail}}} + e^{-0.010347 \times GC_{\text{Bus}}} \right) \) for Tourist
- \( U_{\text{Surface}} = \ln\left( e^{-2.57302 - 0.0157 \times GC_{\text{Rail}}} + e^{-0.023674 \times GC_{\text{Bus}}} \right) \) for Other
Public Modes vs Auto Mode – Level 3

<table>
<thead>
<tr>
<th></th>
<th>(\alpha)</th>
<th>(t) Stat</th>
<th>(\beta_1)</th>
<th>(t) Stat</th>
<th>(\beta_2)</th>
<th>(t) Stat</th>
<th>(R^2)</th>
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<tbody>
<tr>
<td>Business</td>
<td>1.534404</td>
<td>68.892</td>
<td>1.004316</td>
<td>474.26</td>
<td>-0.03927</td>
<td>-492.097</td>
<td>0.919</td>
</tr>
<tr>
<td>Commuter</td>
<td>3.822572</td>
<td>243.601</td>
<td>0.97189</td>
<td>1017.555</td>
<td>-0.044539</td>
<td>-430.593</td>
<td>0.983</td>
</tr>
<tr>
<td>Tourist</td>
<td>3.301322</td>
<td>193.102</td>
<td>0.984576</td>
<td>550.053</td>
<td>-0.014755</td>
<td>-157.397</td>
<td>0.94</td>
</tr>
<tr>
<td>Other</td>
<td>1.60536</td>
<td>47.501</td>
<td>0.948322</td>
<td>409.67</td>
<td>-0.075726</td>
<td>-368.674</td>
<td>0.865</td>
</tr>
</tbody>
</table>

\[
\frac{\ln(P_{\text{Public}})}{\ln(P_{\text{Auto}})} = \alpha + \beta_1 \times U_{\text{Public}} - \beta_2 \times \text{GC}_{\text{Auto}} \\
U_{\text{Public}} = \ln\left(e^{4.94273 + 1.07898U_{\text{Surface}} + e^{-0.016675\text{GC}_{\text{Auto}}}}\right) \text{ for Business} \\
U_{\text{Public}} = \ln\left(e^{3.0798 + 1.036667U_{\text{Surface}} + e^{-0.02473\text{GC}_{\text{Auto}}}}\right) \text{ for Commuter} \\
U_{\text{Public}} = \ln\left(e^{2.69593 + 1.052402U_{\text{Surface}} + e^{-0.019835\text{GC}_{\text{Auto}}}}\right) \text{ for Tourist} \\
U_{\text{Public}} = \ln\left(e^{3.42992 + 1.079045U_{\text{Surface}} + e^{-0.02494\text{GC}_{\text{Auto}}}}\right) \text{ for Other}
\]

Transport Strategies

- **Highway**
  - I-70 PEIS: No Action/Collaborative Recommendations
  - I-25 N PEIS: No Action
  - I-25 S PEIS: No Action

- **Other Public Modes**
  - Air – System grows with traffic
    - Fares constant in real terms
  - Bus – System grows with traffic
    - Fares constant in real terms
    - Schedule impacted by congestion
U.S. Crude Oil Composite Acquisition Cost by Refiners – Historic Data and the Forecasts

Source: Energy Information Administration and TEMS, Inc.

U.S. Retail Gasoline Prices as a Function of Crude Oil Prices (1993 –2008)

Source: TEMS, Inc and Energy Information Administration.
U.S. Retail Gasoline Prices - Historic Data and the Forecasts

![Graph showing U.S. retail gasoline prices from 2005 to 2030 with three scenarios: Low Case, Central Case, and High Case. The graph indicates a rising trend in gasoline prices over the years.]

Source: TEMS, Inc and Energy Information Administration.

Highway Congestion: I-70 Segments (I-70 PEIS)

![Map of I-70 segments showing highway congestion with specific points marked on the map.]

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I-70 AADT and Segment Locations

AADT on I-70 (1987)

Source: CDOT, www.dot.state.co.us/App_DTS_DataAccess/index.htm

I-70 Hourly Traffic Volumes:
Segment 1 Eastbound and Westbound Weekday

EB Weekday_Seg 1

WB Weekday_Seg 1

Hours of Day

Traffic Volumes

Capacity

57
I-70 Hourly Traffic Volumes:

**Segment 1**

Eastbound and Westbound Weekend

**Segment 6**

Eastbound and Westbound Weekday
I-70 Hourly Traffic Volumes:

Segment 6 Eastbound and Westbound Weekend

I-70 Hourly Traffic Volumes:

Segment 12 Eastbound and Westbound Typical Day
I-70 Hours of Congestion:
Segments 1 thru 12
Eastbound and Westbound
Weekday

I-70 Hours of Congestion:
Segments 1 thru 12
Eastbound and Westbound
Weekend
I-25 AADT and Segment Locations

AADT on I-25 (1997)

Source: CDOT, www.dot.state.co.us/App_DTS_DataAccess/index.cfm

Seg 1: Castle Rock
Seg 2: Johnstown

I-25 Hourly Traffic Volumes:
Segment 1 Northbound and Southbound Typical Day
I-25 Hourly Traffic Volumes:

Segment 2 Northbound and Southbound

Typical Day

I-25 Hours of Congestion:

Segments 1 and 2 Northbound and Southbound

Typical Day
Thank You.