Advisory Committee Meeting

October 28, 2021
ConnectRVA 2045
Parking Lot Items
Scenario Planning

Original LRTP Process Flow

Modified LRTP Process Flow
Scenario Planning

LRTP Process Flow with Scenario Planning
Benefit-Cost Evaluation for Project Prioritization

- Only for Demonstration for ConnectRVA 2045
- Net present value of benefit (Individual Project Level)
- Benefit could be positive or negative
- Absolute Benefit of the Project (Not relative to any other project)
- Comparison with the approved Project Prioritization and Ranking.

**Total Benefit**
- Operational/Mobility Benefit
- Safety Benefit
- Environmental Benefit
- Access Benefit
- Quality of Life Benefit

**Total Cost**
- Project Cost (Construction +PE +ROW)
- Annual Maintenance Cost/ Annual Operational Cost

\[ BCA = \frac{\text{Total Benefit}}{\text{Total Cost}} \]
Benefit-Cost Evaluation for Project Prioritization

Benefit Calculations

Operational Benefits
• Savings in Person Delays, Truck Delays and VMT

Safety Benefits
• Equivalent Property Damage only (EPDO) savings due to reduced fatal and severe injuries accidents.

Environmental Benefits
• Reduction or Increase annual tonnage of pollutants focused on VOC, NOx.
• Other NAAQS pollutants (Sox,CO,PM2.5, PM10)
• GHG Emissions(CO2, methane, fluorides).
• Environmental Burdens – soil erosion cost, floodplain mitigation cost, etc.
Benefit-Cost Evaluation for Project Prioritization

Benefit Calculations

Access Benefits
• Ease of Access (Impedance Benefit) – Both Access to Jobs and Access to Destinations (Destinations to be converted into Visitors Equivalent)
• Opportunities Benefit
• Access to Transit Benefit

Quality of Life Benefit
• Any other user and not user benefit not captured in the first four categories (health, social etc.)
Connect RVA 2045

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