



COLORADO
Department of Transportation
Freight Mobility & Safety Branch



Colorado Freight Plan

Statewide Transportation Advisory Committee

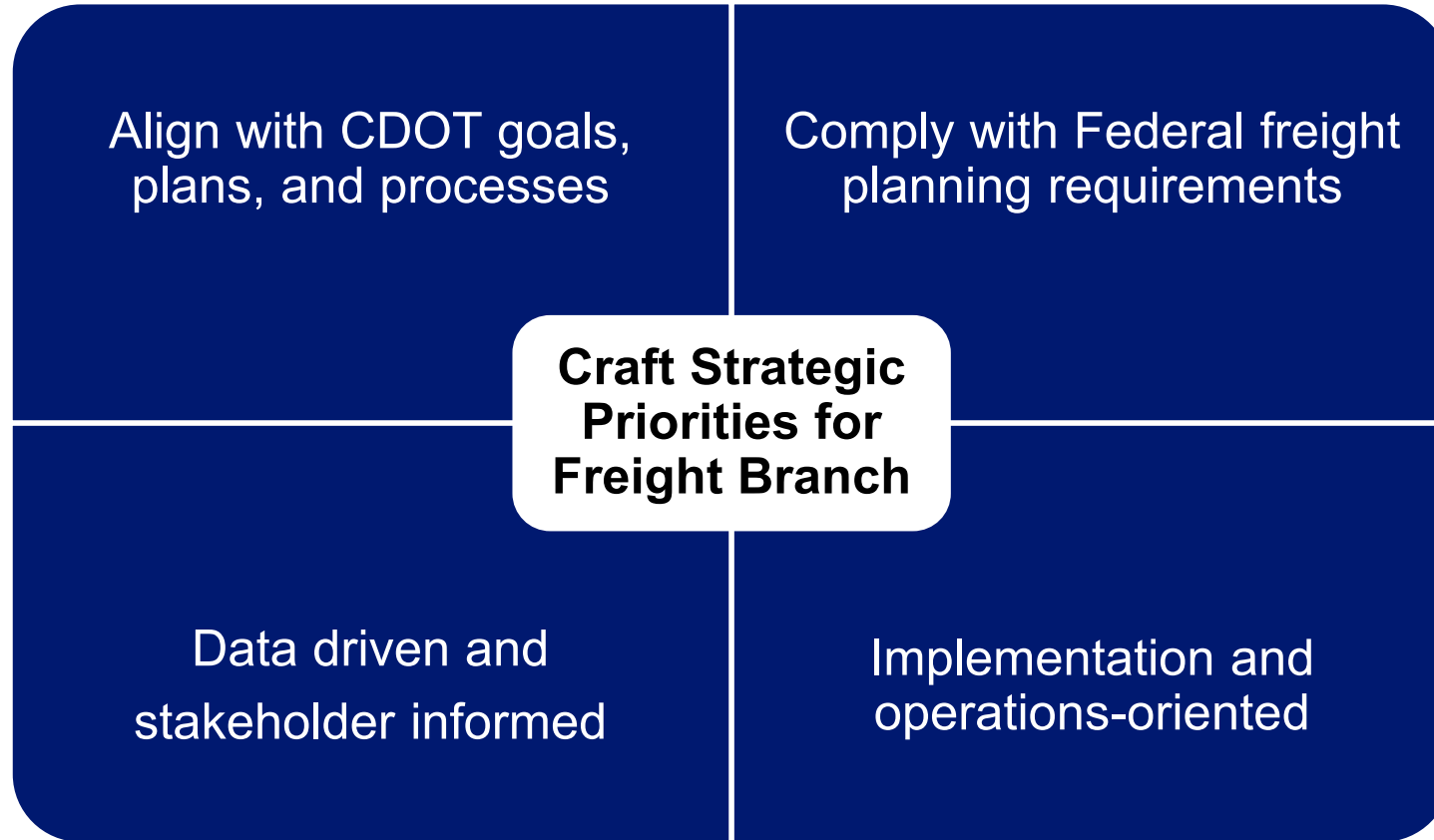
January 4, 2024



Freight Plan Purpose



Guiding Principles and Key Outcomes

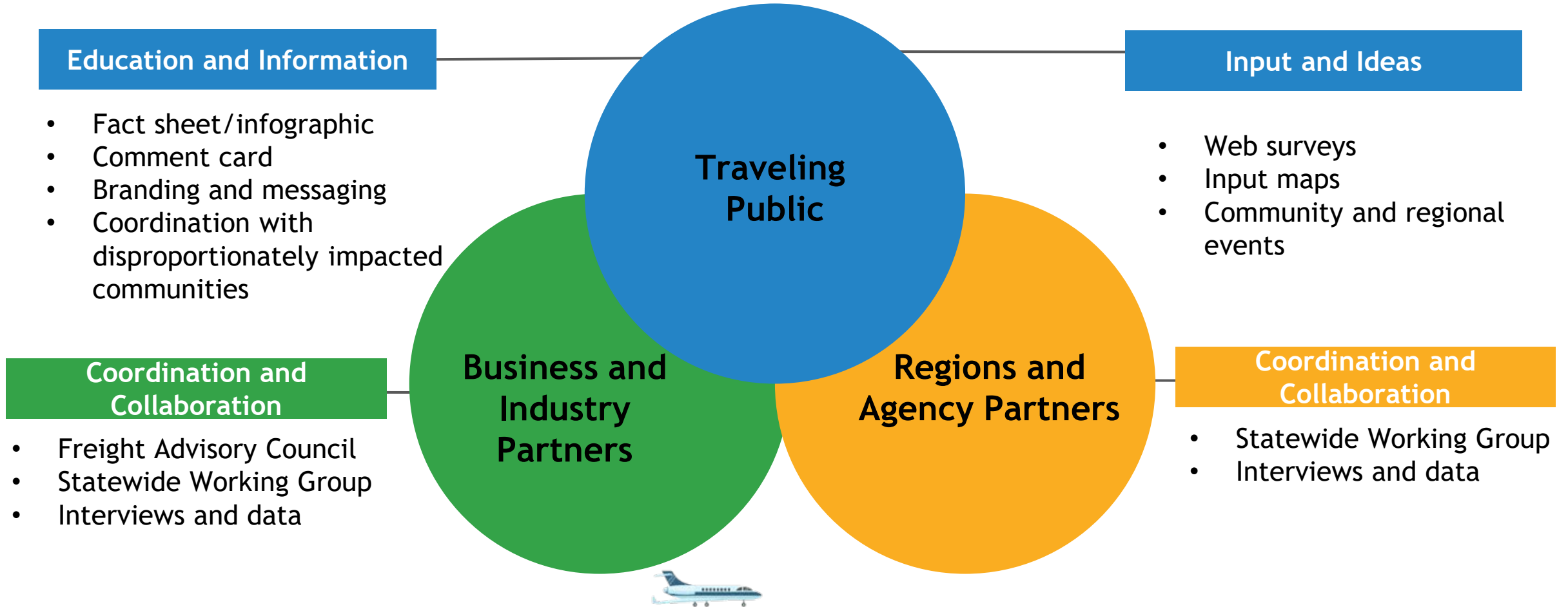


Alignment State and Federal Goals

| Colorado Freight Plan Goals | Safety & Security | Mobility | Maintenance | Economic Vitality | Sustainability & Resiliency |
|---------------------------------|---------------------------------|--|----------------------|--|-----------------------------|
| National Freight Goals | Safety and security | Congestion Reliability Goods Movement Innovation and Technology | State of Good Repair | Economic Efficiency and Productivity Multi-State Planning | Resiliency Environmental |
| Colorado Wildly Important Goals | Advancing Transportation Safety | Accountability and Transparency | | Statewide Transit | Clean Transportation |



Engagement and Outreach Approach



Public Outreach Results

In-Person Events



Hot Topics:

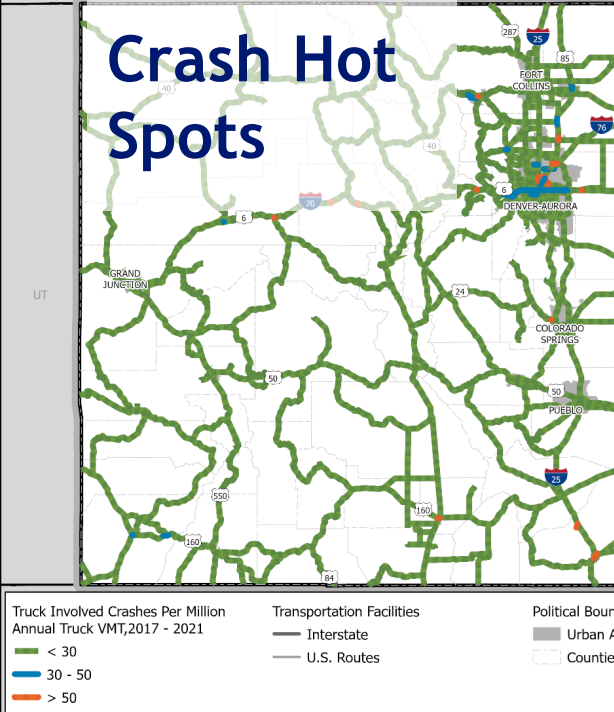
Colorado Freight Plan Survey Participants



Safety and Security



Crash Hot Spots



Truck Involved Crashes Per Million Annual Truck VMT, 2017 - 2021

- < 30
- 30 - 50
- > 50

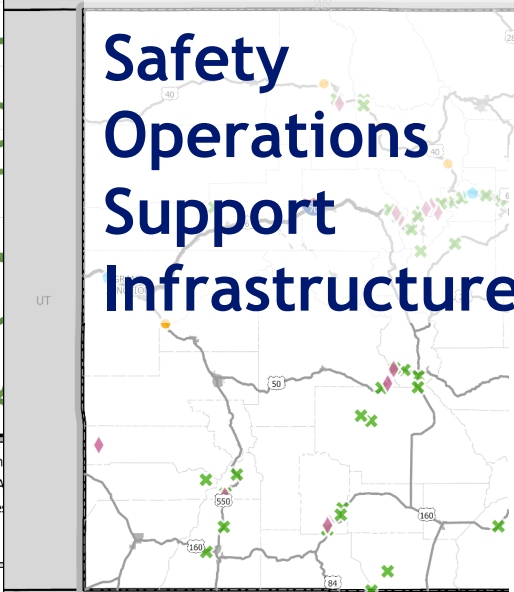
Transportation Facilities

- Interstate
- U.S. Routes

Political Boundaries

- Urban Areas
- Counties

Safety Operations Support Infrastructure



Highway Operations Support Infrastructures

- Chain Stations
- Weigh-in-Motion
- Runaway Ramps
- Pullouts

Transportation Facilities

- Interstate
- U.S. Routes

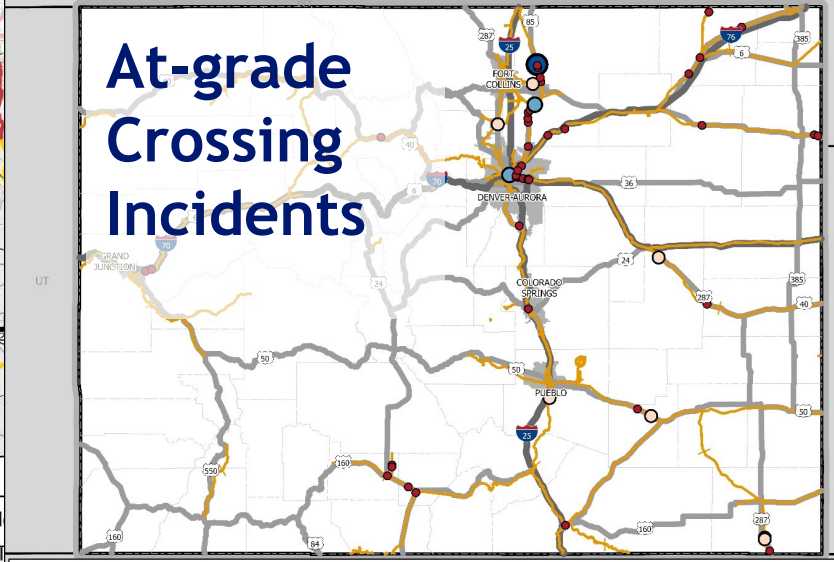
Truck Parking Priorities



Legend

- Heavy Truck Parking Usage
- Intermediate Truck Parking Usage
- Moderate Truck Parking Usage
- No Truck Parking Usage

At-grade Crossing Incidents



Transportation Facilities

- Interstate
- U.S. Routes
- Railroads

Political Boundaries

- Urban Areas
- Counties
- States

Railway-Truck Grade Crossing Incidents

- 1
- 2
- 3
- 4

0 25 50 100 Miles



Safety Strategies

Commercial Vehicle Safety

Truck Parking

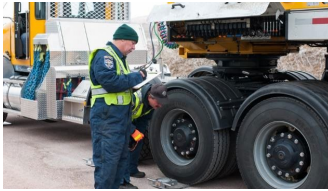
- Prioritize Truck Parking Investments
- Emergency Truck Parking
- Truck Parking Information
- Truck Parking Partnerships

Operational Safety Enhancements

Rail Safety

Safety Data

Communications



The Mountain Rules I-70 Mountain Corridor Overview

Watch on YouTube

Hot Brakes, Runaway Truck Ramps & Summer Driving in Colorado

Truck Safety and Winter Driving in Colorado

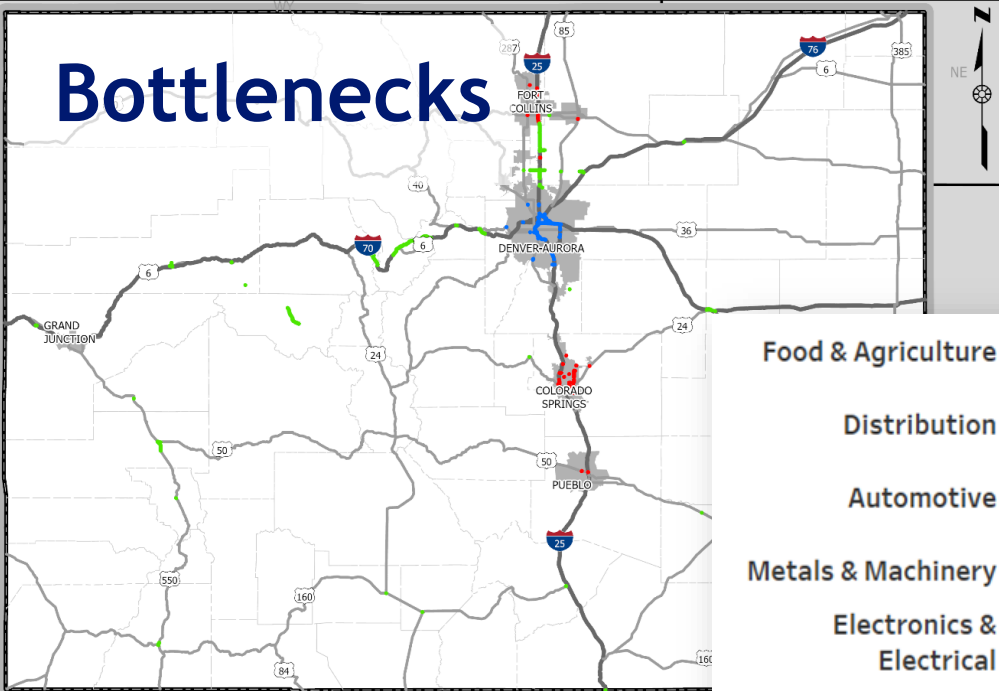
CDOJ "The Mountain Rules" Truck Safety



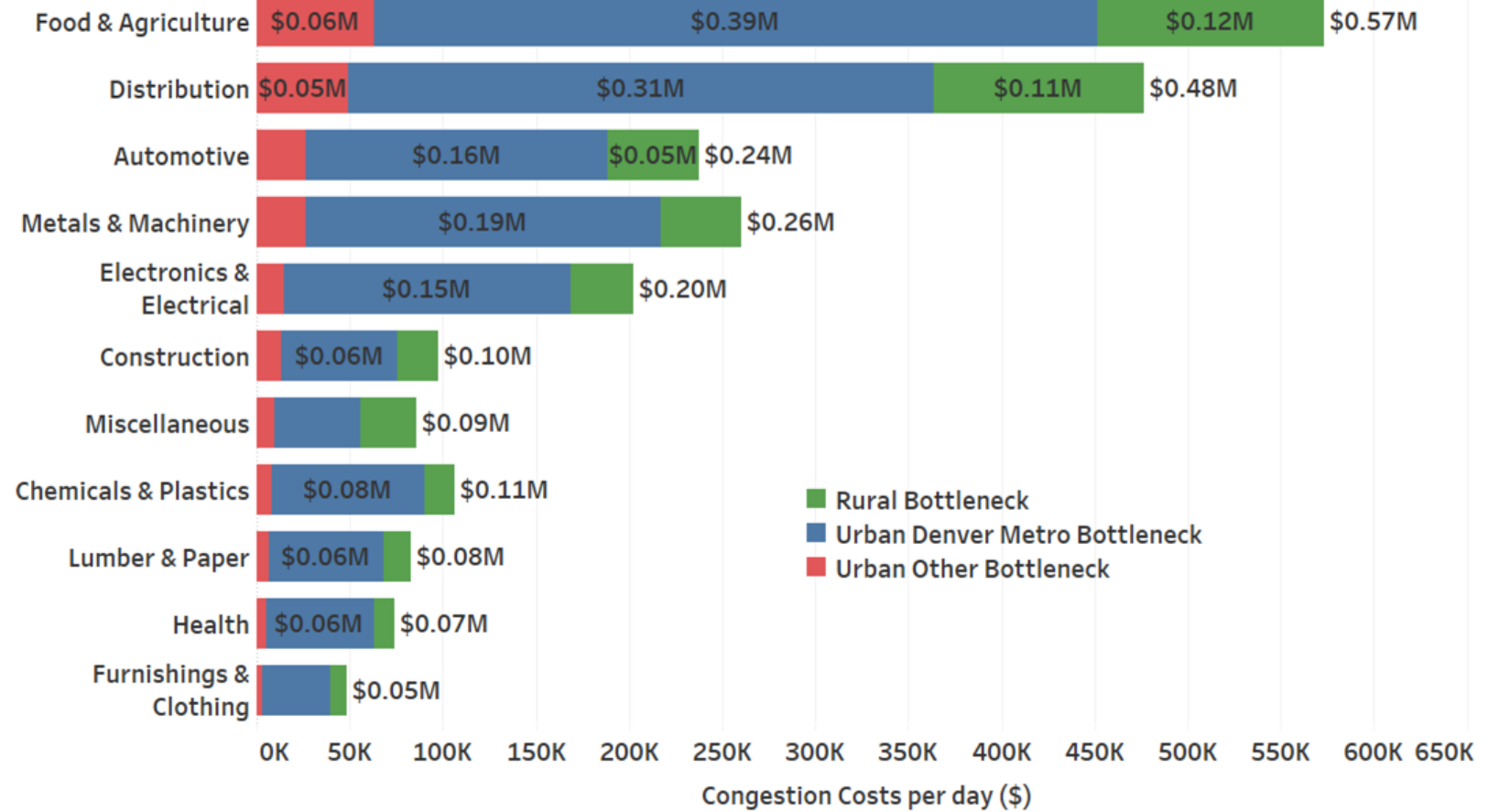
Mobility



Bottlenecks



Cost of Congestion per day



Congestion Bottleneck
 - Urban Denver Metro Bottleneck (Blue)
 - Urban Other Bottleneck (Red)
 - Rural Bottleneck (Green)

Transportation Facilities
 - Interstate (Thick Grey Line)
 - U.S. Routes (Thin Grey Line)

Political Boundaries
 - Urban Areas (Grey Shaded)
 - Counties (Dotted Grey)
 - States (Black Outline)

Source: WSP analysis of NPMRDS data.



Mobility Strategies

Mobility Data

Incident Management

Management and Operations

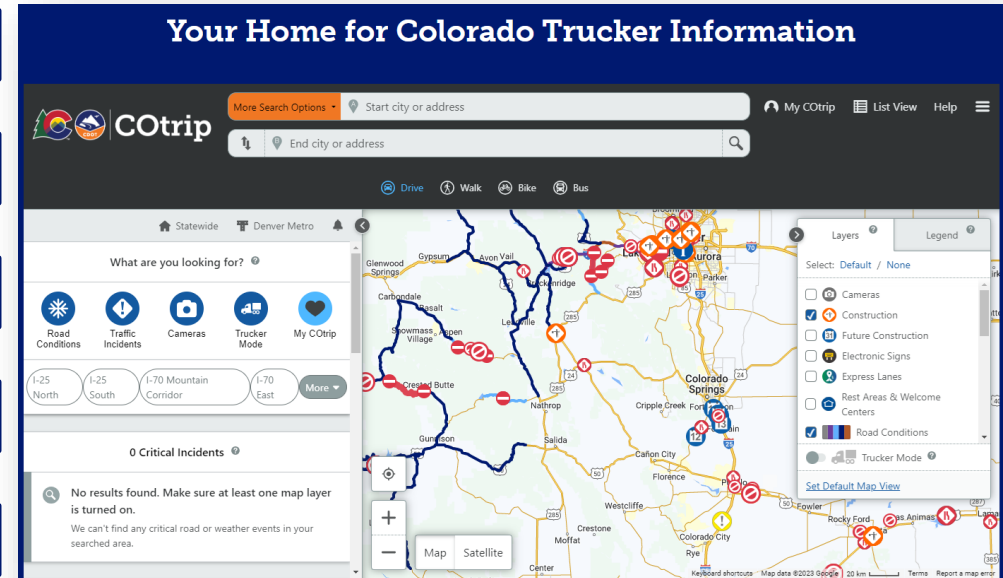
Freight Coordination

Freight Information

Freight Technology

At-grade Railroad Crossings

Military Freight



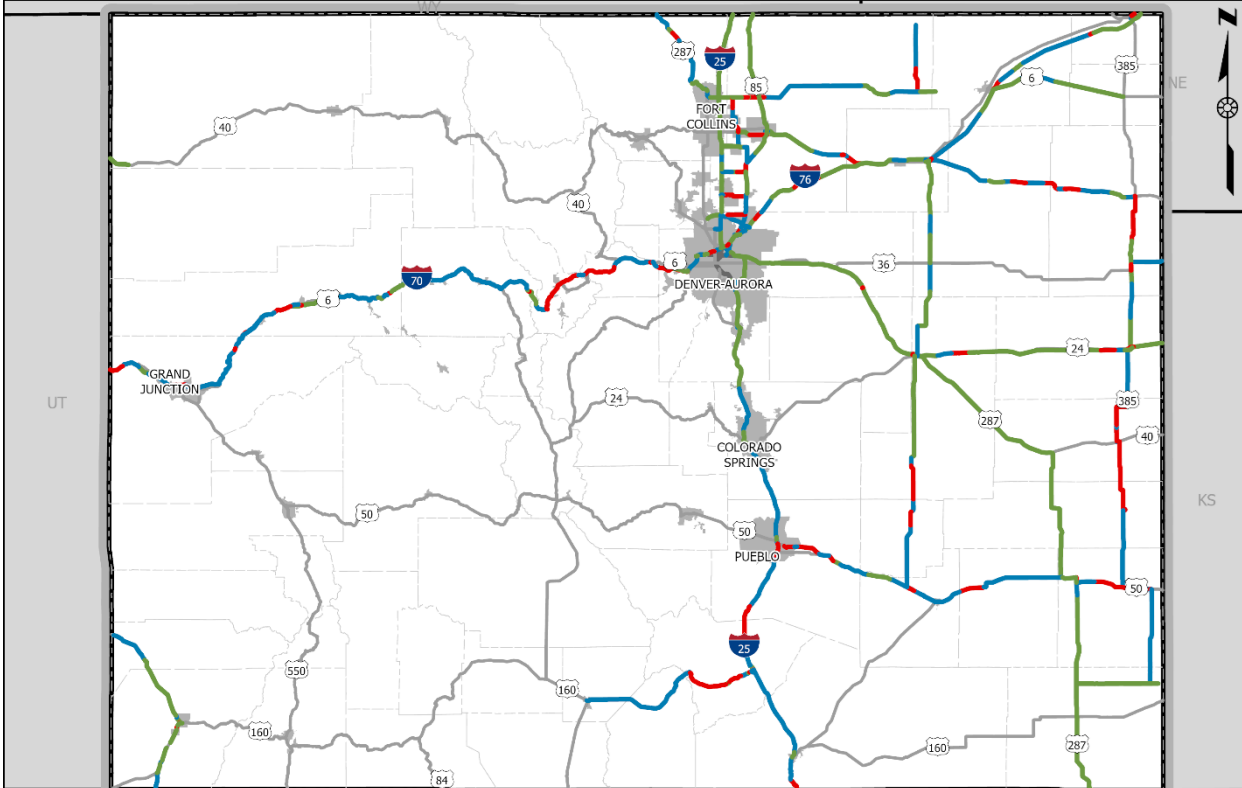
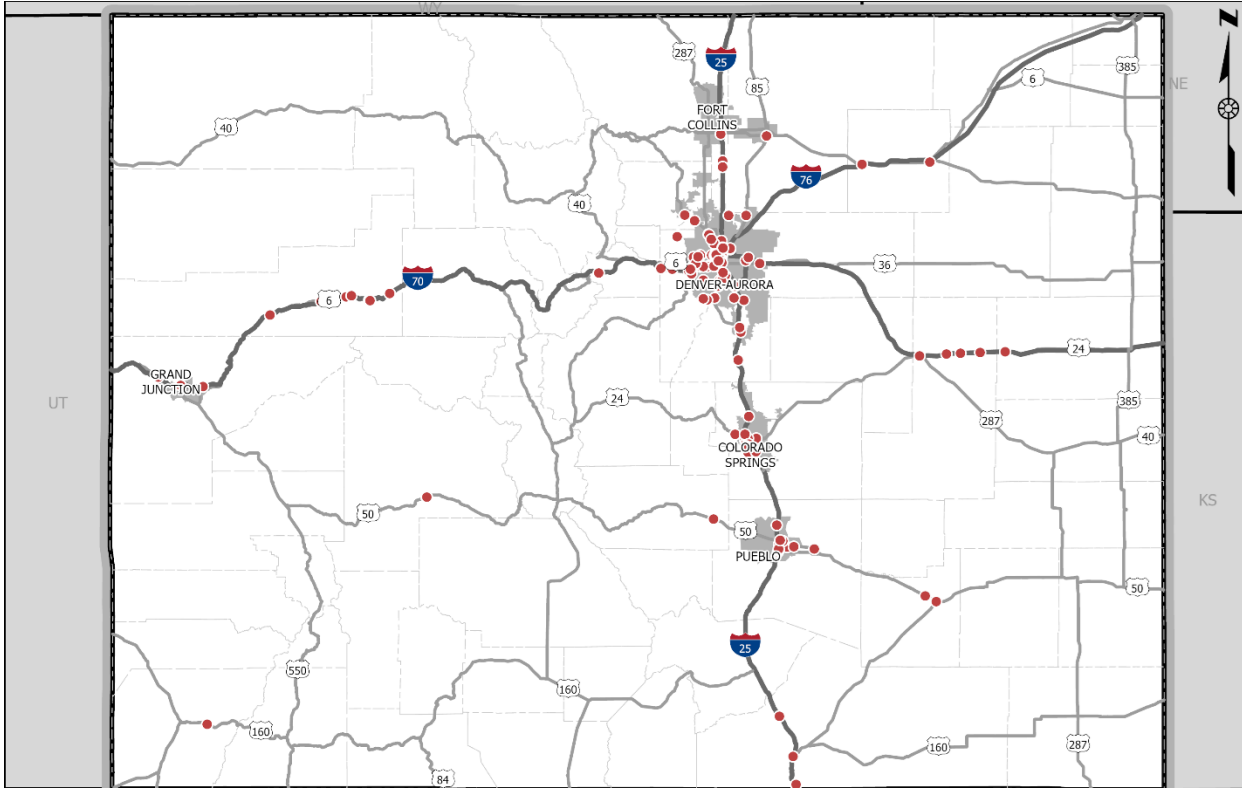
Maintenance



Bridge Restrictions and Pavement Condition

Bridges with Vertical Clearance Lower than 16.5 feet

Drivable Life on Primary Over-dimensional Permit Routes



| | | |
|---|---------------------------|----------------------|
| • Bridges With Vertical Clearance Lower Than 16.5ft | Transportation Facilities | Political Boundaries |
| | — Interstate | ■ Urban Areas |
| | — U.S. Routes | □ Counties |

0 25 50 100 Miles

| | | |
|-------------------------------------|---------------------------|----------------------|
| Drivable Life on Routes with Permit | Transportation Facilities | Political Boundaries |
| — HIGH | — Interstate | ■ Urban Areas |
| — LOW | — U.S. Routes | □ Counties |
| — MODERATE | | |

0 25 50 100 Miles

Source: Tunnels, Colorado Department of Transportation, 2022



Maintenance Strategies

Bridge Constraints

- Identify and prioritize bridges on freight corridors

Freight Rail Condition

System Condition

- Identify and implement maintenance and improvement projects

Mitigate Pavement Deterioration

Sustainable Funding

- Identify sustainable funding sources

Timber Bridge Replacement Program

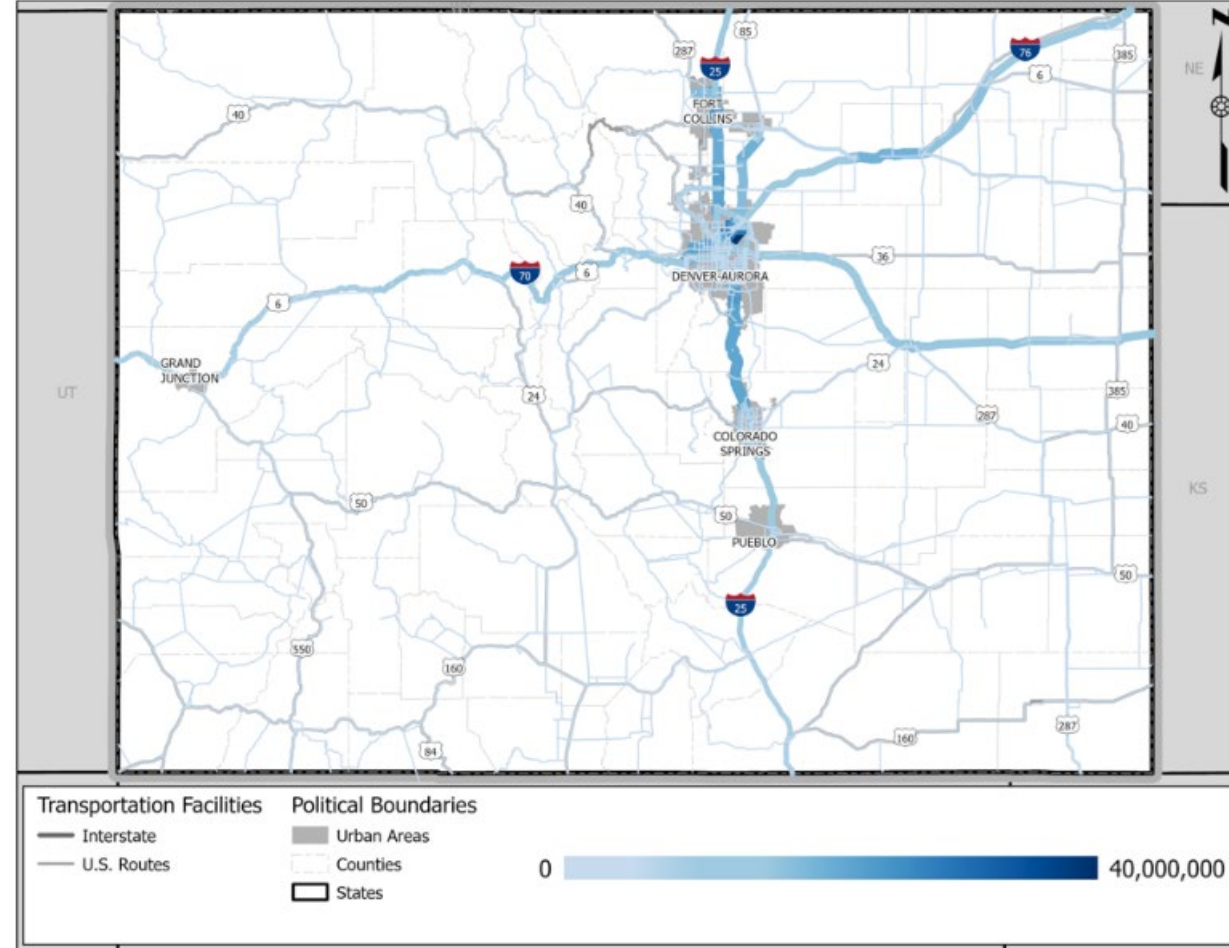
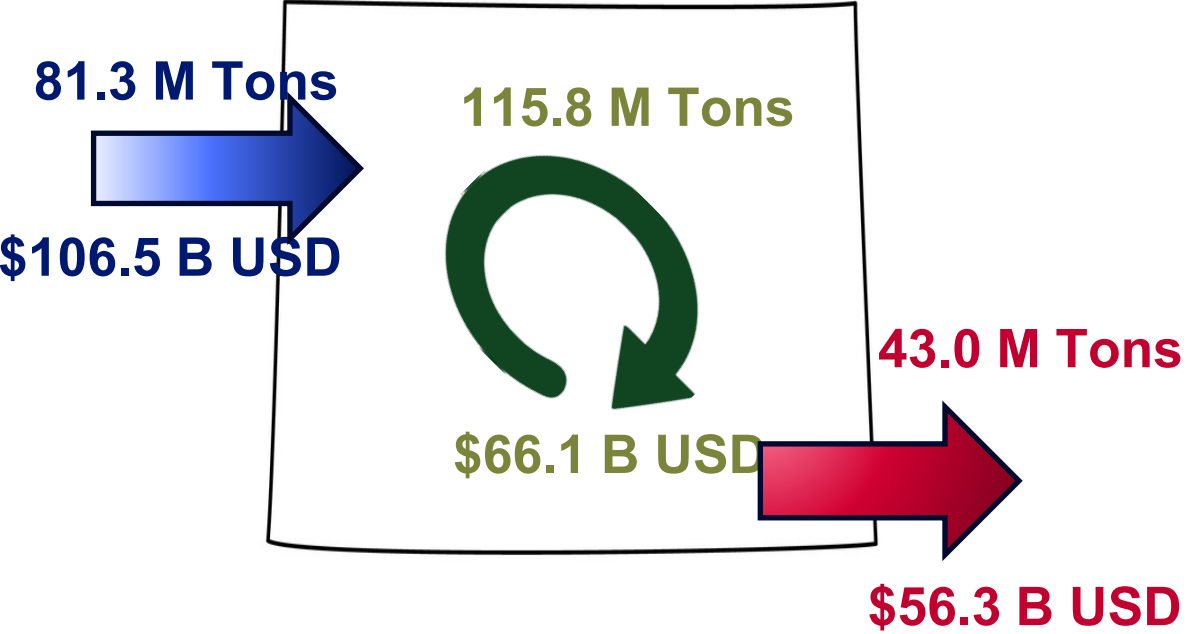


Economic Vitality



Commodity Flows

Important Supply Chain Highways



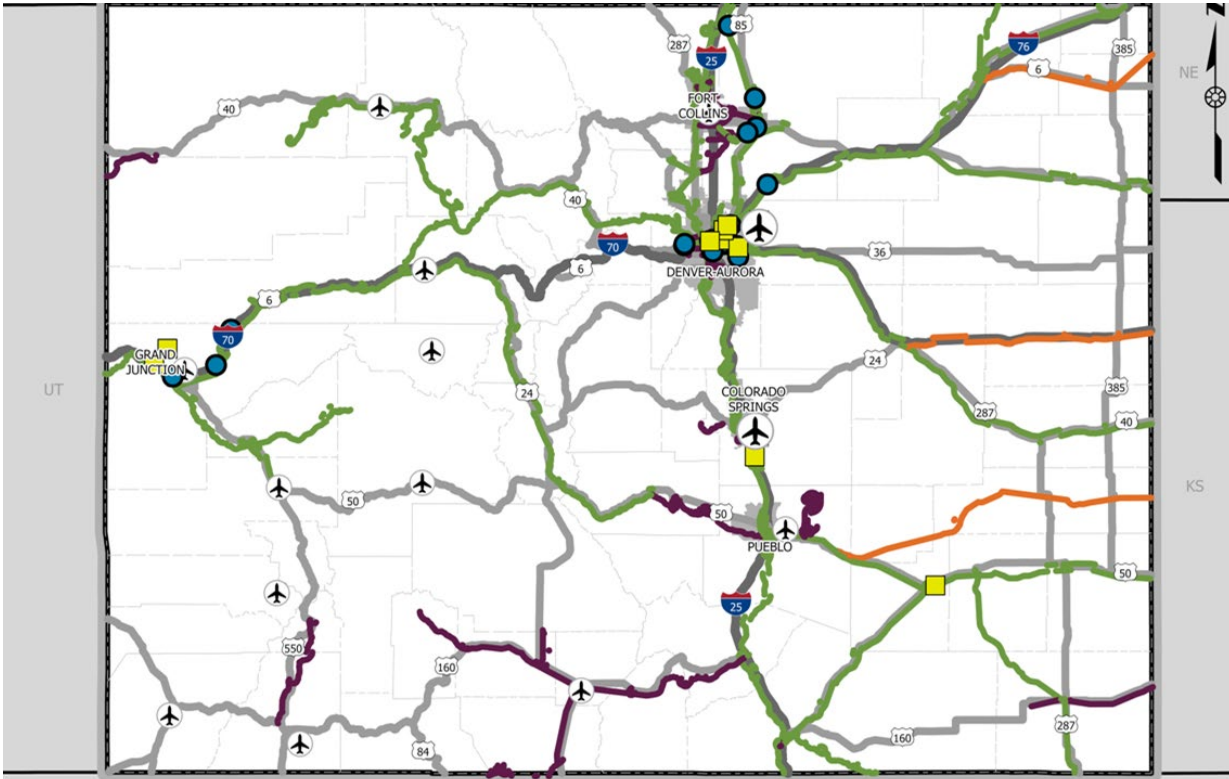
Source: S&P TRANSEARCH, 2021



Sustainability & Resiliency



Intermodal Network

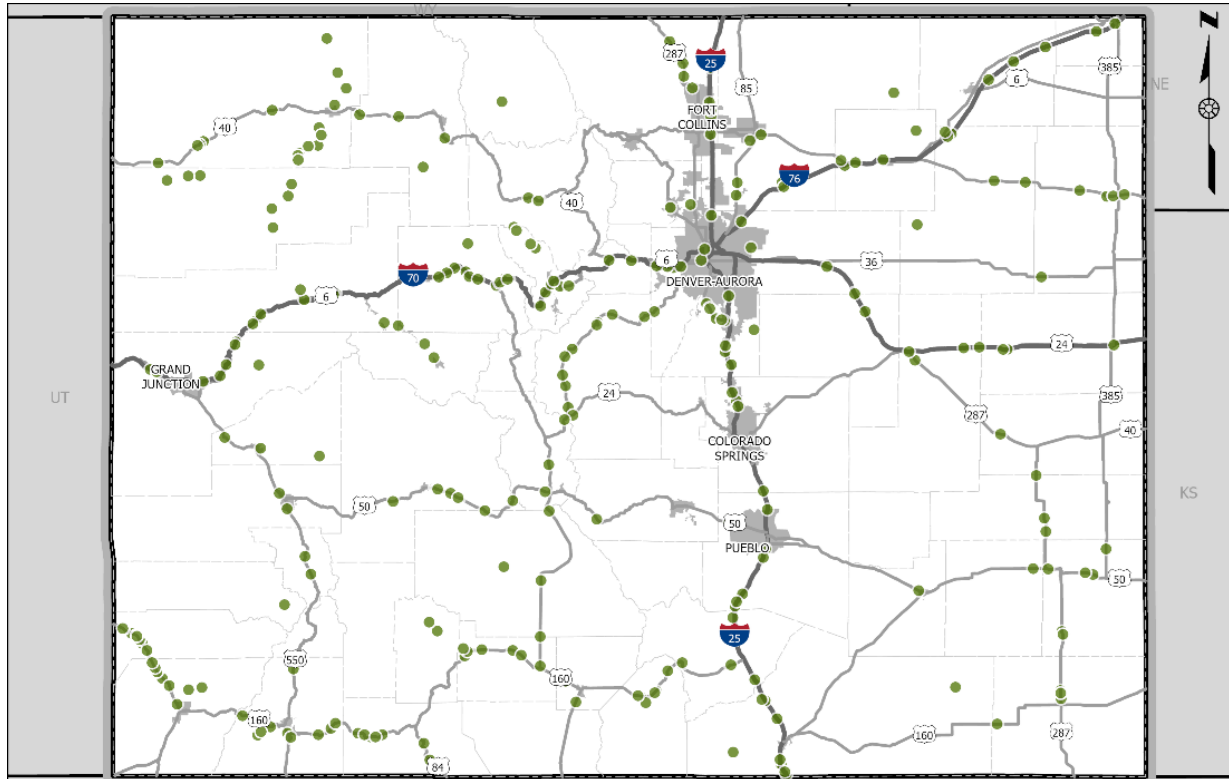


| | | |
|----------------------------------|-----------------------------|-----------------------|
| Transportation Facilities | Political Boundaries | Railroad Class |
| — Interstate | ■ Urban Areas | — Class I |
| — U.S. Routes | □ Counties | — Class II |
| ✈ Commercial Airports | ▭ States | — Class III |
| ● Intermodal Facilities | ■ Tank Farms | |

Source: Cambridge Systematics

0 25 50 100 Miles

Wild Animal Involved Truck-Related Crash Distribution



| | | |
|---|----------------------------------|-----------------------------|
| ● Wild Animal and Truck-Involved Crashes, 2017 - 2021 | Transportation Facilities | Political Boundaries |
| | — Interstate | ■ Urban Areas |
| | — U.S. Routes | □ Counties |

Source: Crash Data, Colorado Department of Transportation, 2017–2021

0 25 50 100 Miles



Sustainability & Resiliency Strategies

Supply Chain Efficiency

Consolidated Intermodal Freight Port

Highway Mobility and Operational Improvements

Encourage Fleet Turnover

- Support the Colorado Clean Truck Strategy

Pursue Partnerships for Charging Infrastructure

Mitigate Wildlife Habitat Loss

System Risk and Redundancy



Colorado Freight Investment Plan



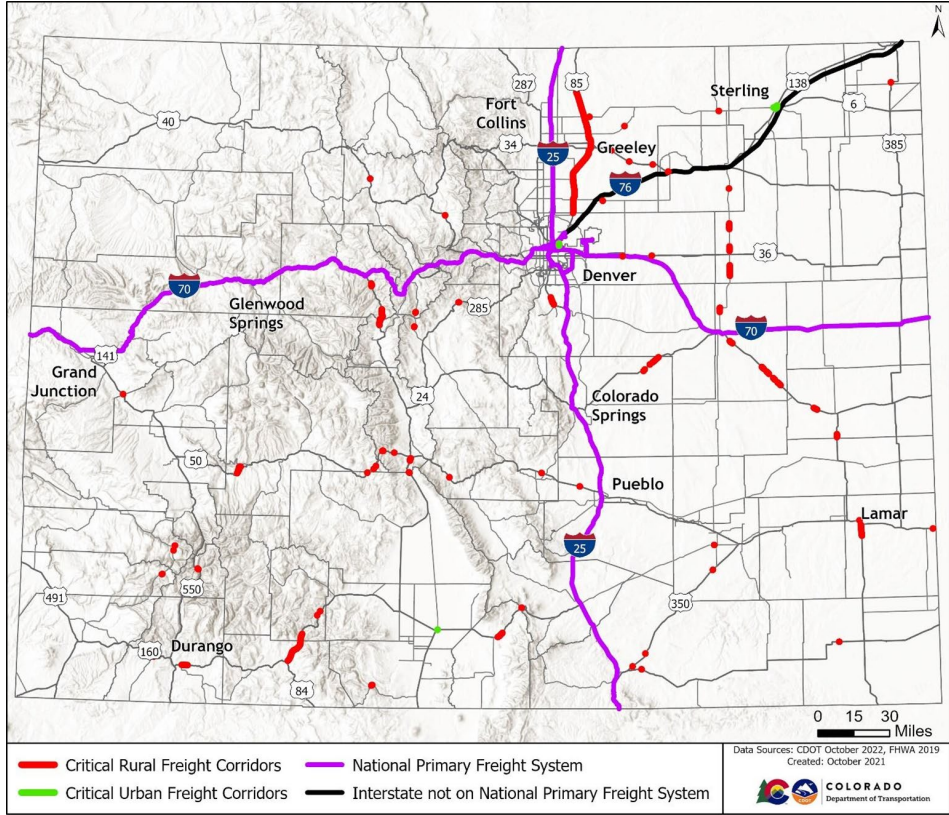
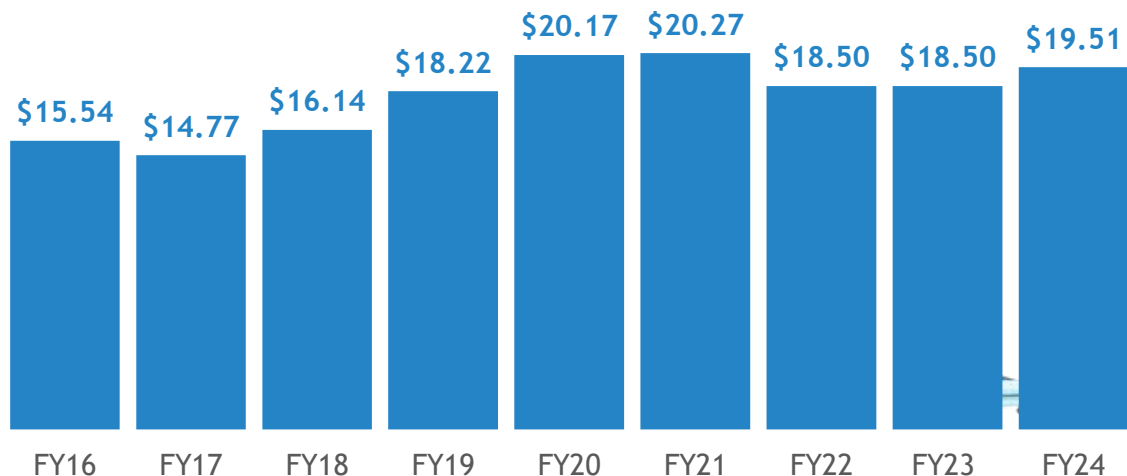
National Highway Freight Program

1 dedicated source of freight funding

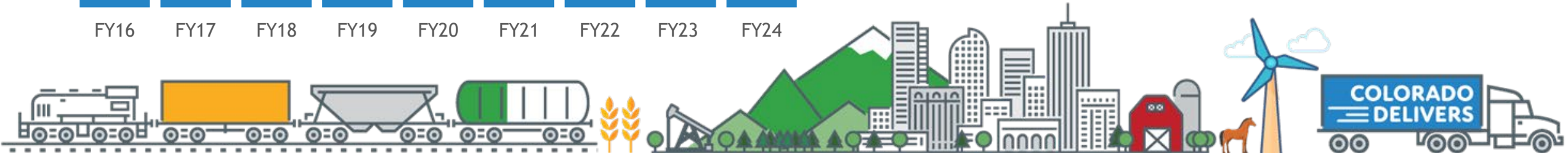
3 critical focus areas

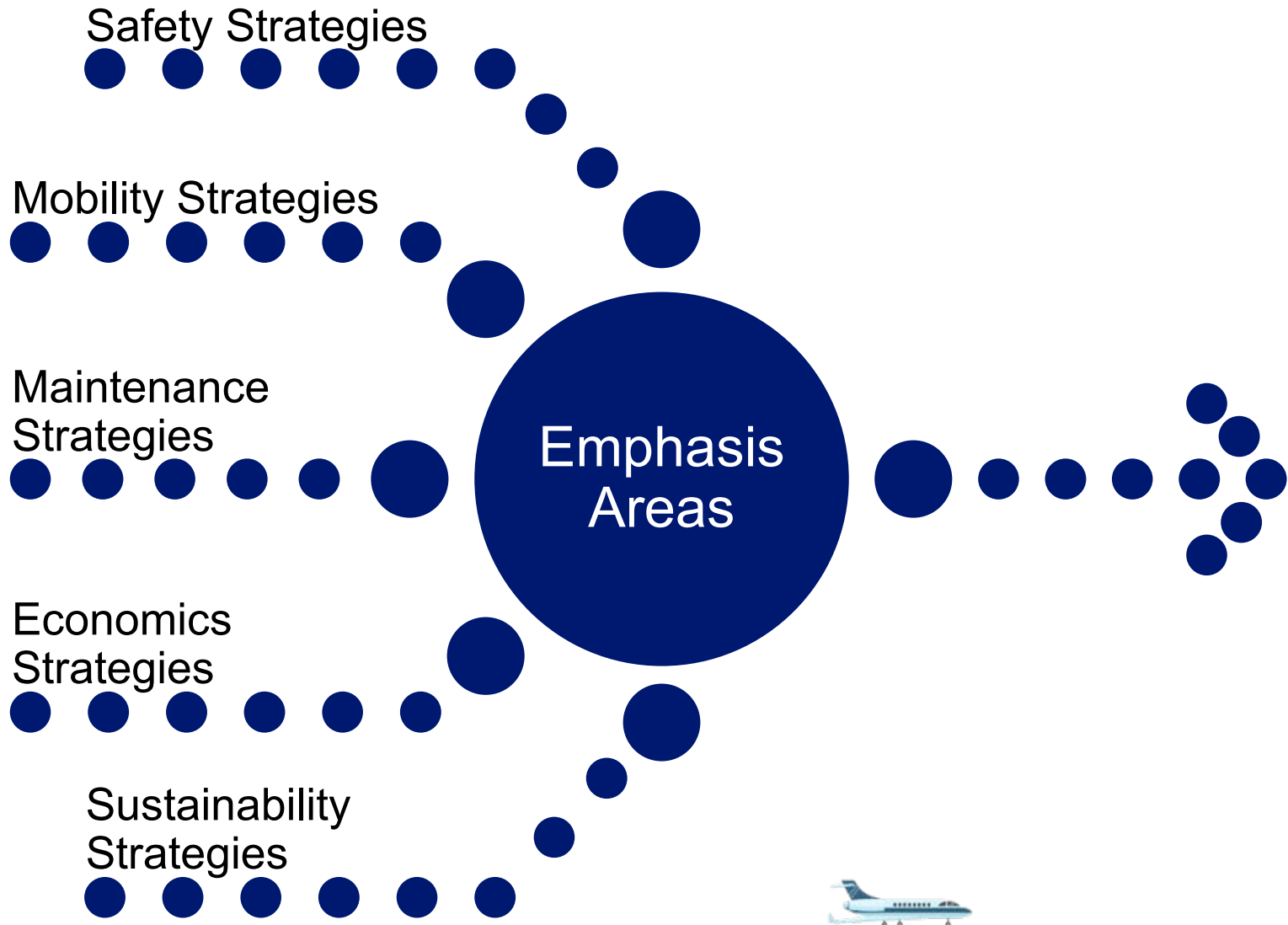
70+ projects funded

\$179 million invested in Colorado



Climbing lanes, truck parking, chain stations, ports of entry, ITS parking and weather, safety improvements, bridge replacement, planning and design





Truck Safety

Freight Operations

Clean Transportation



Emphasis Areas

Truck Safety

- Reduce conflicts
- Shoulders and passing lanes
- Weather-related improvements
- Safety information

Freight Operations

- Truck parking
- ITS for chain stations and safety pullouts
- In-cab communications
- Runaway truck ramps
- Weigh in Motion

Clean Transportation

- Eliminate bottlenecks to reduce emissions
- Removing barriers
- Zero emission charging/fueling
- Emerging technologies (e.g., e-cargo bikes)



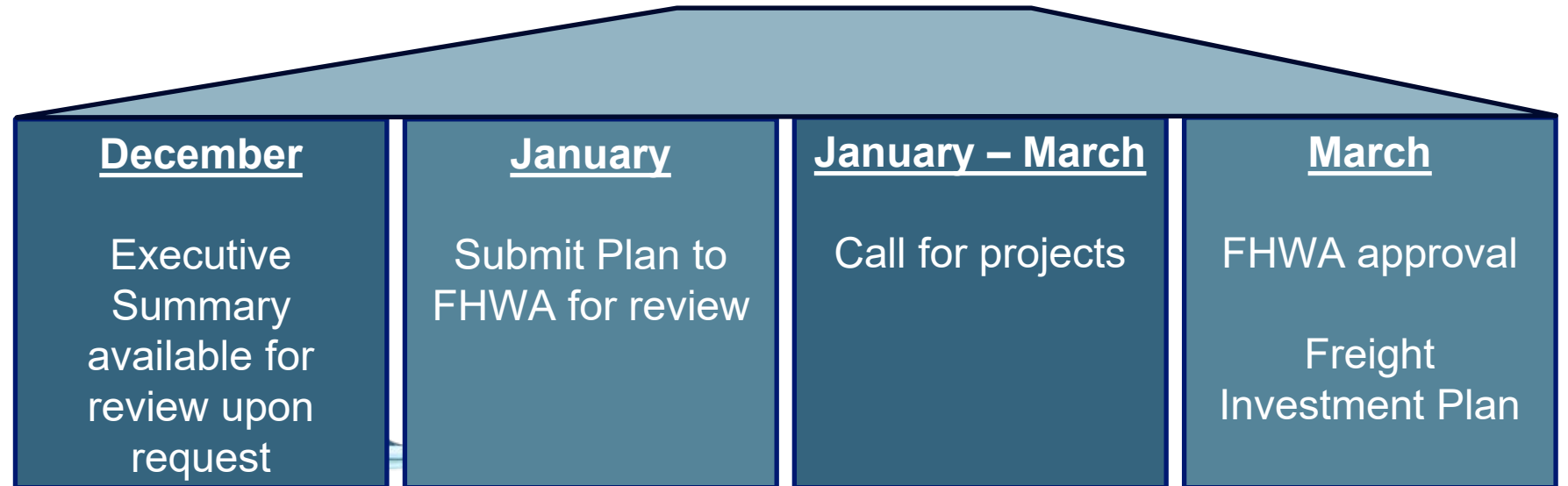
Next Steps



APRIL 2023

DECEMBER 2023

MARCH 2024





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freight.colorado.gov