

# Freight

The role of transportation is to move both people and goods; therefore, *Communities in Motion 2050* (CIM 2050) includes freight—the movement of goods—in planning for a [complete transportation network](#).<sup>1</sup>

The purpose of COMPASS freight planning is to enhance freight movement within the region's transportation system to better serve urban deliveries, rural economies, and global connections.

Data collection and analysis, coupled with a better understanding of freight's impact in the region, provide the foundation for freight planning. To that end, COMPASS conducted its first truck freight data collection project in 2008, followed by additional data collection in 2014, 2015, and 2017. More information on freight data and studies can be found on the [COMPASS website](#).<sup>2</sup>

COMPASS' [Freight Advisory Workgroup](#)<sup>3</sup> advises COMPASS staff on data collection and analysis and provides input about how to best integrate freight considerations into its plans. The workgroup has helped COMPASS identify regional freight needs and deficiencies, determine appropriate freight performance measures, and stay informed of the issues facing the freight community.

## FREIGHT IN A COMPLETE NETWORK

In recent years, freight has evolved from simply bringing goods from manufacturing areas to retail centers, to bringing freight into our neighborhoods. The surge in home deliveries means that freight is now ubiquitous on many roadways as more and more products are delivered to more and more places throughout the valley.

The majority of freight travels along primary freight corridors — large roadways that link commercial centers to the interstate and to other key corridors (Figure 1). However, freight also uses other corridors, so should be considered a secondary, but important, mode on those roadways as well. All freight corridors should provide for the needs of other road users to the extent possible.

The rapid increase in freight delivery to residential neighborhoods must be a consideration throughout the region and coordinated with other needs to ensure safety for all users and modes.

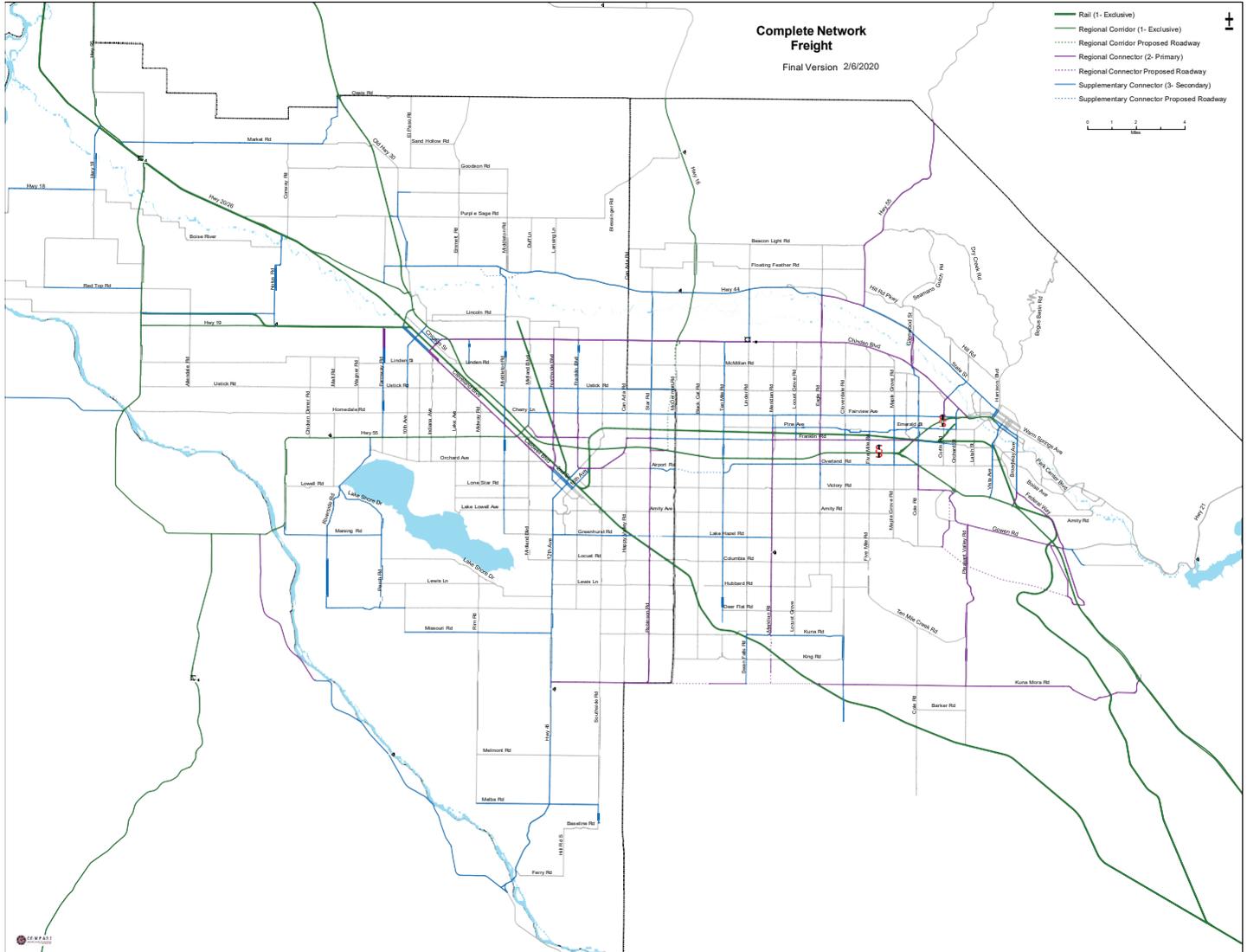


Figure 1. Freight in a complete network

Two interrelated issues for supporting freight are [managing congestion](#)<sup>4</sup> and enabling reliable travel speeds to help goods move to and from commercial centers efficiently. However, these are not the only considerations. A few other ways to support freight functionality include

- providing enhanced signal timing that is responsive to changing traffic patterns and ensures efficient timing of green traffic lights, thus reducing delay and improving safety;
- using access-management strategies to better control freight movements, reduce conflict points, and provide predictable traffic patterns;
- managing parking, including at the curb in town centers, to help freight access final destinations while balancing the needs of other users;
- identifying and protecting manufacturing areas from infringement from other land uses, especially residential, to reduce conflicts;
- designing turning radii to enable large vehicles to maneuver safely; and
- identifying loading and unloading zones to prevent double parking and delays due to lack of parking.

## CRITICAL URBAN FREIGHT CORRIDORS

Critical freight corridors are roadways that connect two or more important freight routes and/or provide access to commercial centers and freight generators in rural or urban areas. Federal freight funding is available for projects in these corridors, as established in the 2015 Fixing America's Surface Transportation Act ([FAST Act](#)).<sup>5</sup> Critical freight corridors in urban areas are eligible for the funds if they meet one or more of the following criteria:

- connect an intermodal facility to the primary highway freight system, the interstate system, or another intermodal freight facility
- be located within a corridor of a route on the primary highway freight system and provide an alternative highway option important to goods movement
- serve a major freight generator, logistic center, or manufacturing and/or warehouse industrial land
- be important to the movement of freight within the region, as determined by the state

COMPASS worked with its Freight Advisory Workgroup to provide a list of critical urban freight corridors in Ada and Canyon Counties for inclusion in the update to the Idaho Transportation Department's statewide freight strategic plan. After receiving additional input from other stakeholders, 14 corridors or segments in Ada and Canyon Counties were requested as critical urban freight corridors in the plan (Figure 2). These designations would allow several projects in Canyon County to be prioritized for statewide federal freight funding over the next four years. At this time, there are no designated critical rural freight corridors in the region.

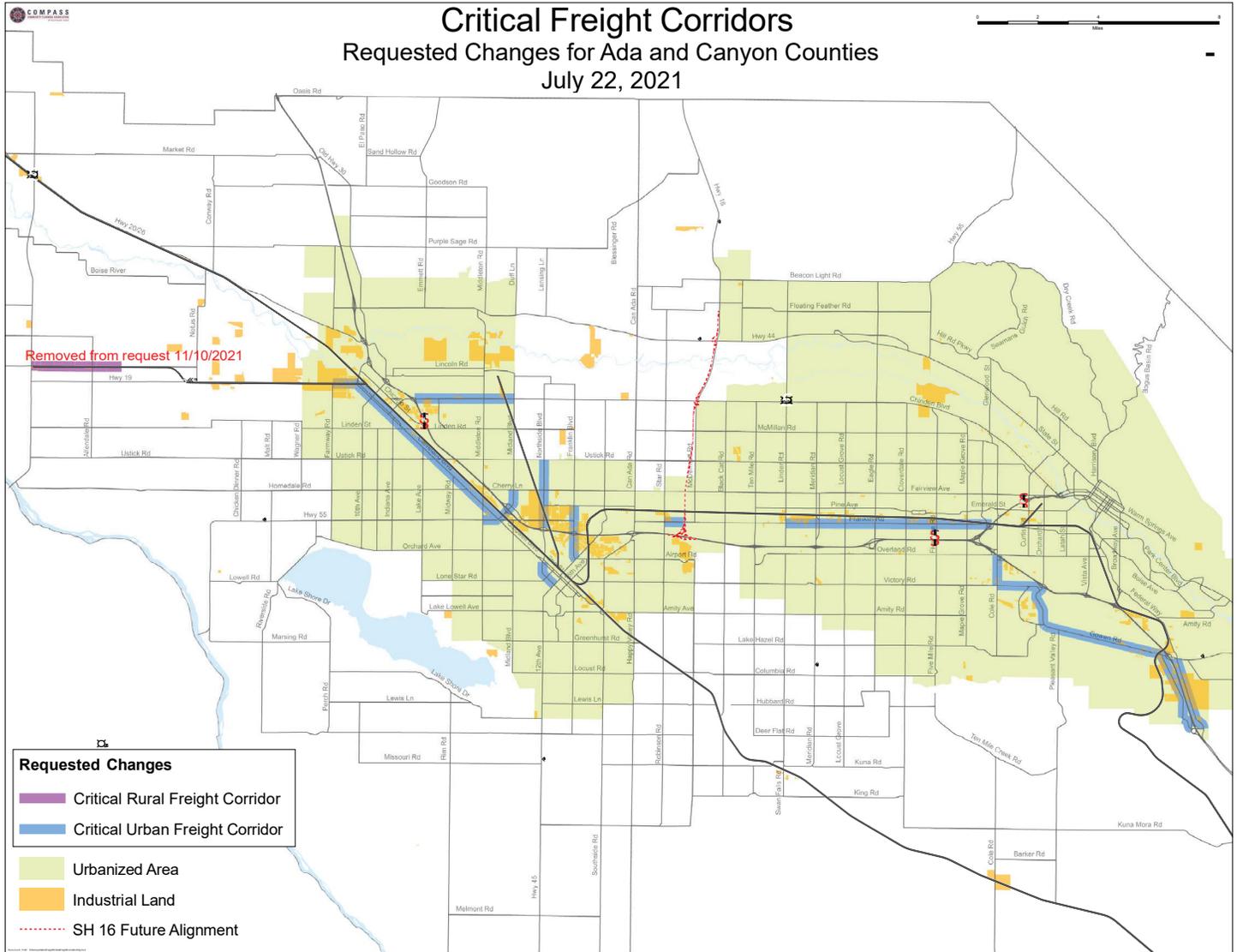


Figure 2. Critical urban freight corridors requested for inclusion in ITD’s updated statewide freight strategic plan

## FREIGHT AND CIM 2050 GOALS

CIM 2050 was developed to address [four goal areas](#),<sup>6</sup> each with specific objectives. Appropriate planning for freight movement in the region is key to realizing the individual objectives to support each of the goal areas:

Goal Area	Freight-Related Objectives
 <p><b>Safety</b> is a key consideration for providing efficient and reliable freight routes while providing safe accommodations for bicyclists and pedestrians.</p>	<ul style="list-style-type: none"> <li>• Provide a <b>safe</b> transportation system for all users.</li> <li>• Support a <b>resilient</b> transportation system by anticipating societal, climatic, and other changes; maintaining plans for response and recovery; and adapting to changes as they arise.</li> </ul>
 <p><b>Economic Vitality</b> is supported by a reliable and efficient transportation system that prioritizes freight on certain routes. Freight promotes economic vitality to enable people and businesses to prosper.</p>	<ul style="list-style-type: none"> <li>• Promote freight <b>accessibility and mobility</b> via truck and rail improvements to support the efficient movement of goods and encourage economic development.</li> <li>• Provide for a <b>reliable</b> transportation system to ensure all users can count on consistent travel times for all modes.</li> </ul>
 <p><b>Convenience</b> is important for freight. Land uses that enable freight to access distribution and destinations quickly ensure goods are delivered on time. The increased availability of home deliveries also increases the convenience for customers.</p>	<ul style="list-style-type: none"> <li>• Reduce <b>congestion</b> with cost-effective solutions to improve <b>efficiency</b> of the transportation system.</li> </ul>
 <p><b>Quality of Life</b> is served by the efficient and equitable transport of goods.</p>	<ul style="list-style-type: none"> <li>• Provide <b>equitable</b> access to safe, affordable, and reliable transportation options.</li> </ul>

## FREIGHT-RELATED NEEDS

Freight improvements go beyond narrow freight-specific issues and can encompass other modes, planning issues, and policies. Often, projects that benefit freight also benefit other modes. For example, signal timing/priority or intersection improvements can benefit buses as well as freight vehicles. This was considered in the [prioritization of transportation projects for CIM 2050](#).<sup>7</sup> A multi-criteria evaluation matrix indicated whether a project was located on a freight corridor, including critical urban freight corridors (see Figures 1 and 2), helping to identify freight-related projects that could be eligible for freight-specific funding.

Opportunities for mode shift, such as truck to rail, can affect other transportation components or modes. For example, more freight rail customers may make developing a rail-with-trail pathway more challenging. However, more freight rail could decrease truck traffic on some roadways, making those routes safer and more convenient for pedestrians and bicyclists.

From a land-use perspective, considerations such as providing a buffer between residential areas and manufacturing areas, truck freight corridors, and rail lines can impact how well freight integrates with other land uses. Similarly, designated loading/unloading zones and curb management can help freight better integrate with other modes and users.

## FUTURE CONSIDERATIONS

With the COVID-19 pandemic, the nation experienced the vulnerability of supply chains that deliver the goods we need and want. It revealed a need to refashion supply chains to make them more resilient to unexpected shocks, and also to the many changes and innovations to transportation and communication technologies that already affect how we produce, deliver, and receive goods. As indicated in the [“A Lot Can Change in 30 Years” survey](#),<sup>8</sup> people are becoming increasingly comfortable with, and reliant on, online shopping and expedient home deliveries.

## CONNECTED FREIGHT AND OTHER TECHNOLOGIES

Freight is seeing a myriad of innovations related to autonomous and/or connected vehicles, especially in long-haul trucking. Truck “platooning” syncs multiple trucks together into a convoy with connective technology and automated driving systems, resulting in cleaner, safer, and more efficient driving that can save up to 17% of fuel costs.<sup>9</sup> Dedicated short-range communications technologies can monitor driving conditions and congestion, and can be used at weigh stations to “read” the necessary information as trucks drive by; similarly, radar at intersections can detect trucks and adjust signal timing to allow them to move through the intersection without stopping. These technologies could dramatically improve supply-chain operations and lead to decreased costs of durable goods.

### Drones or Unmanned Aerial Vehicles

Drones have the potential to supplement freight deliveries and make the last-mile connection cheaper and quicker. Drone delivery could reduce the amount of truck traffic on local roads, increasing overall safety and reducing conflicts between freight vehicles and other roadway users such as bicyclists. Of course, with drones come airspace conflicts with nearby airports, privacy issues, and barriers related to regulation and enforcement.

### Electric Freight Vehicles

Electric vehicles (EVs) have emerged as a rapidly growing part of the personal transportation fleet, and commercial medium- and heavy-duty EVs are poised to break into the freight sector.<sup>10</sup> Electrified heavy-duty trucks are starting to be adopted for medium- and long-haul trips,<sup>11</sup> while battery-powered cargo vans and electric cargo scooters provide new options for last-mile deliveries.

The increase of EVs in the freight fleet will reduce the sector's greenhouse gas emissions and negative impacts on both climate change and local air quality. Additionally, EVs tend to be quieter, making them more appropriate for neighborhoods and dense urbanized areas.

## CONCLUSION

COMPASS' Freight Advisory Workgroup will convene public- and private-sector stakeholders to identify freight-related issues and develop solutions and projects to address them.

In CIM 2050, freight needs and deficiencies are converted into improvement projects that were evaluated, prioritized, funded,<sup>12</sup> and implemented as part of overall transportation system improvements. The identified solutions will also inform land-use and development decisions adjacent to freight corridors and industrial areas.

Innovations to transportation connection and communication technologies will improve how we transport and deliver goods, and create resource efficiencies.

## ENDNOTES

- 1 Complete Network Policy, [www.compassidaho.org/documents/people/policies/CompleteNetworkPolicy\\_Final\\_Dec2021\\_2022-01.pdf](http://www.compassidaho.org/documents/people/policies/CompleteNetworkPolicy_Final_Dec2021_2022-01.pdf)
- 2 Freight, COMPASS, <https://compassidaho.org/freight/>
- 3 Freight Advisory Workgroup, [www.compassidaho.org/people/workgroups.htm#fawg](http://www.compassidaho.org/people/workgroups.htm#fawg)
- 4 Congestion Management Process, [www.compassidaho.org/documents/prodserv/reports/2022CongestionManagementSystemTechnicalDocument.pdf](http://www.compassidaho.org/documents/prodserv/reports/2022CongestionManagementSystemTechnicalDocument.pdf)
- 5 FAST Act Section 1116 Implementation Guidance, US Department of Transportation Federal Highway Administration, [ops.fhwa.dot.gov/fastact/crfc/sec\\_1116\\_gdnce.htm](https://ops.fhwa.dot.gov/fastact/crfc/sec_1116_gdnce.htm)
- 6 CIM 2050 goals, [https://cim2050.compassidaho.org/wp-content/uploads/2022/07/CIM\\_2050\\_Goals\\_Objectives\\_apprDec2020.pdf](https://cim2050.compassidaho.org/wp-content/uploads/2022/07/CIM_2050_Goals_Objectives_apprDec2020.pdf)
- 7 Prioritization, CIM 2050, <https://cim2050.compassidaho.org/Prioritization.pdf>
- 8 A Lot Can Change in 30 Years survey, [https://cim2050.compassidaho.org/wp-content/uploads/2022/08/SurveyResults\\_Fall2019.pdf](https://cim2050.compassidaho.org/wp-content/uploads/2022/08/SurveyResults_Fall2019.pdf)
- 9 Truck Platooning, National Renewable Energy Laboratory, [www.nrel.gov/transportation/fleettest-platooning.html](http://www.nrel.gov/transportation/fleettest-platooning.html)
- 10 Breakthrough Analysis Finds Electrified Heavy-Duty Vehicle Powertrains Could Provide Lower Total Cost of Ownership, National Renewable Energy Laboratory, [www.nrel.gov/news/program/2021/breakthrough-analysis-finds-electrified-heavy-duty-powertrains-could-provide-lower-total-cost-ownership.html](http://www.nrel.gov/news/program/2021/breakthrough-analysis-finds-electrified-heavy-duty-powertrains-could-provide-lower-total-cost-ownership.html)
- 11 Advanced Clean Trucks, California Air Resources Board, [ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks](http://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks)
- 12 CIM 2050 funded projects, [https://cim2050.compassidaho.org/wp-content/uploads/CIM2050Funded\\_All.pdf](https://cim2050.compassidaho.org/wp-content/uploads/CIM2050Funded_All.pdf)