



COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

Working together to plan for the future

2015 Agricultural Freight Study

Report Number 04-2016
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Acknowledgements

This agricultural freight study was completed thanks to the participation and data sharing by key stakeholders. Representatives from the Amalgamated Sugar Company LLC, the JR Simplot Company, Ruan Transportation and Transystems contributed information and provided feedback for this study.

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I. Introduction

The 2015 Agricultural Freight Study provides an overview of regional and local freight movement in and around Ada and Canyon Counties, Idaho. The Community Planning Association of Southwest Idaho (COMPASS) is working to incorporate freight data into its regional long-range planning processes to better ensure that the current and future regional transportation system can safely and efficiently accommodate freight (movement of goods).

II. Background

Agricultural production is a critical component to the economic health of Idaho and the Treasure Valley (the region of Ada and Canyon Counties, Idaho). COMPASS aims to ensure the harvest and conveyance of goods is efficient for both farmers and transporters. In order to plan for the future and to accommodate these freight movements, COMPASS needs to understand which corridors are being used to transport goods, what equipment is being used, and what the net volumes of goods being transported on corridors are. This information helps identify corridors that may need more frequent maintenance to ensure quality, or have potential for improvements to better accommodate the equipment using them.

Approximately 11.7 million acres of land in Idaho is used for farming. The Treasure Valley makes up nearly 450,000 acres of that, with 303,800 acres in Canyon County and 144,000 acres in Ada County (USDA 2012 Census of Agriculture County Profiles).

III. Stakeholder Involvement

The agricultural freight study divided regional freight planning – a substantial task – into smaller, more manageable pieces that could be approached individually. One of those pieces was to establish relationships with the agricultural freight community and the freight community as a whole. These new relationships encourage participation and feedback, give stakeholders the ownership they want and need to have, and allow for communication between those who *use* the roads and those who *plan* for the roads. COMPASS will continue to build relationships and encourage collaboration with local agricultural stakeholders.



Figure 1. Stakeholder involvement regarding regional freight issues in the Treasure Valley

IV. Methodology

In June 2014, COMPASS staff met with the region's largest producers/transporters of potatoes (JR Simplot), sugar beets (Amalgamated Sugar), and dairy (Ruan Transportation). Together, these three companies produce or receive and process a large portion of all agricultural freight in Canyon and Ada County.

COMPASS conducted follow-up meetings with company representatives to gain insight into the specific freight movements made by these companies. Representatives of JR Simplot, Amalgamated Sugar, and Ruan were given the opportunity to point out production sites, storage sites, processing sites, and the routes most commonly used to connect these points on maps of the regional roadway network (Figure 1).



Figure 2. Example of the 'marked-up' maps used in follow-up meetings with large producers/transporters.

Weight data are important for COMPASS' freight and roadway planning, as heavier trucks and equipment add more wear to roads than smaller, lighter vehicles. These data tell COMPASS which corridors or areas of our transportation network may require frequent maintenance and suggests network improvements that can be incorporated in future planning. COMPASS aims to use the weight data to answer regional freight planning questions, such as whether or not there are corridors that could better support freight movements if widened, if more frequent re-surfacing is a feasible maintenance option, and if some corridors would benefit from the addition of a designated freight lane.

Valuable weight data were provided by Simplot, Amalgamated Sugar, and Ruan Transportation. Simplot and Amalgamated Sugar provided information on the types and sizes of trucks and machinery used to transport commodities between facilities. Using this information, COMPASS calculated the net weight traveling on the

roadways between facilities by comparing the total weight leaving the facility (the weight of the truck and commodities together) and the weight of the empty truck upon return.

Ruan Transportation provided locations of origin sites and processing centers where raw materials are collected and processed, as well as an estimate of its typical annual volume. Absent a means to assign volume by origin site, annual volume was divided evenly between all origin points.



Figure 3. Amalgamated Sugar truck leaving the facility

Additional data were collected from February 2015 to April 2015 through voluntary participation in an online survey. The survey was sent to 186 local producers, processors, and organizations and was intended to collect freight related information such as estimated annual volume of goods, trucks/machinery used to transport, and trip frequency. COMPASS mapped data from the surveys as responses came in.

About 20 surveys were completed; COMPASS chose not to use the survey data in this report as it did not provide the necessary level of detail. The survey data did, however, provide useful information on small-scale production in the Treasure Valley that can be further developed in the future.

Using the data collected early in the study, COMPASS staff created a map of the origin and destination locations (Figure 4) that commodities are moving between. The associated data set approximates the most logical routes being used by drivers, based on roadway configuration and producer provided information on route selection criteria, with the estimated net demand on these routes (Appendix A).

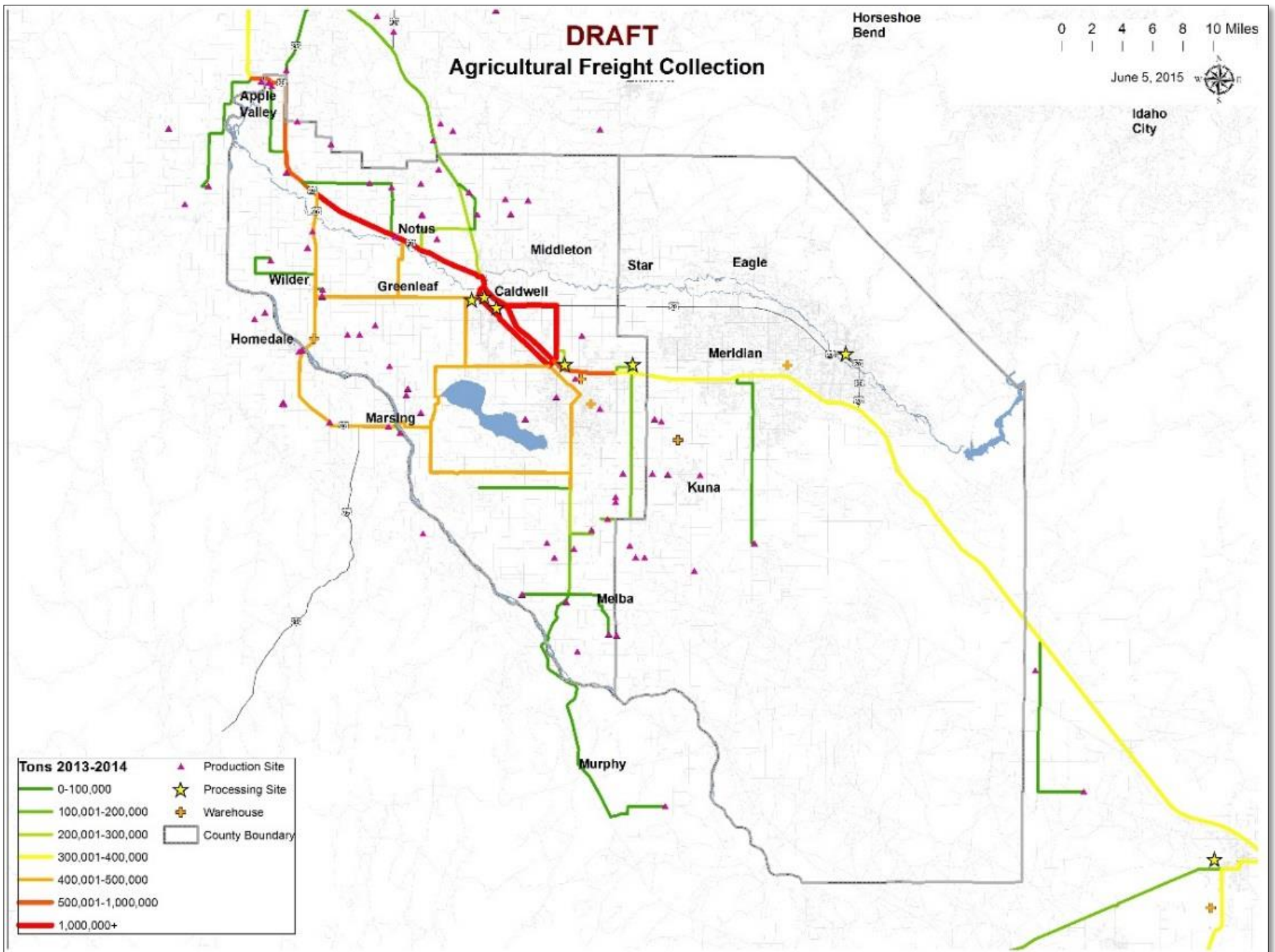


Figure 4. Map of production and processing sites and volume of freight (tons)

V. Key Findings

The collected data were used to create a variety of maps to help visualize where agricultural freight movements are occurring and provide an estimate of the volumes being moved on specific corridors. Moving forward, it is important to keep in mind that these estimates do not capture all of the agricultural freight being moved around the Treasure Valley, but instead serve as a place to start from.

COMPASS will continue to add to and use the corridor maps for current and future freight planning in the Treasure Valley, as well as use them as a communication tool among stakeholders, including those local producers, processors, and transporters that provided data used to create the maps. The maps help identify key findings that may be of interest to a variety of different industries with an interest in the transportation network and how it functions. Some of these key findings include:



Figure 5. Amalgamated Sugar truck in downtown Nampa

- Canyon County is home to the JR Simplot collection and processing center, the Amalgamated Sugar storage and processing center, and the Sorrento/Lactalis processing center
- Heavy trucks and equipment use the same routes in downtown Caldwell and Nampa as the local traffic
- Approximately 2,271,000 tons are moved along the Cleveland Boulevard, Midland Road, US 20/26, and I-84 corridors in downtown Caldwell per year (Figure 6)

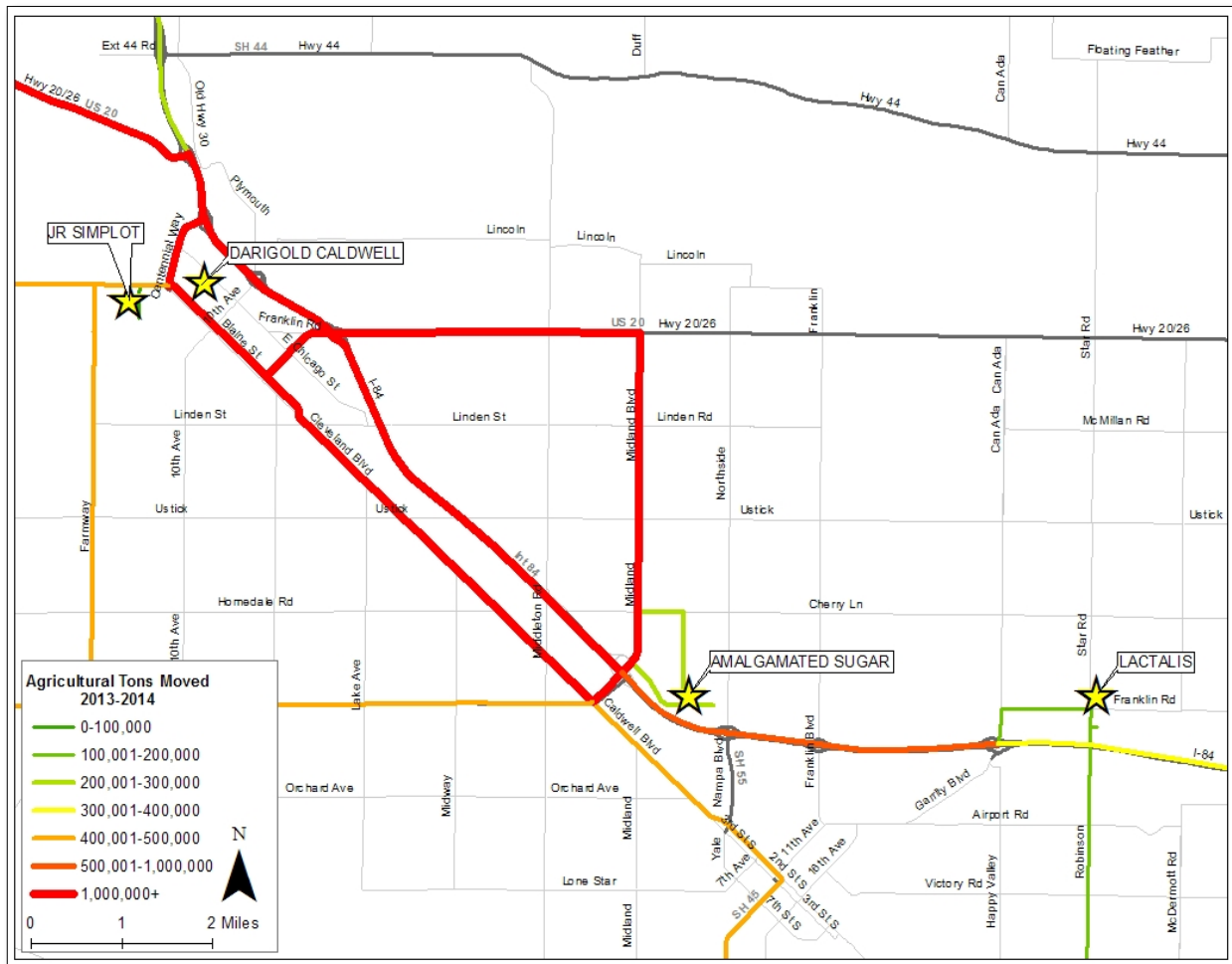


Figure 6. Freight tonnage transported on four heavily used freight corridors in Nampa

- This volume requires approximately 70,500 truck trips (at full load) to move raw products to processing centers
- There is a lot more to learn, especially about livestock, aquaculture, and small scale producers who are not under contract with JR Simplot or Ruan Transportation
- Stakeholders identified physical barriers to truck movements, and made suggestions for adjustments ranging in scope and scale of complexity. If addressed, these suggestions could positively impact heavy truck/equipment drivers, making freight movements easier and safer. Examples of suggested needs/modifications include:
 - Increase in roundabout awareness and how to navigate them in large trucks
 - COMPASS created and distributed a roundabout usage (Appendix B)
 - Eliminate physical barriers on routes
 - Locations of known problems and areas of improvement were added to the maps
 - Facilitate communication between the highway districts, Idaho Transportation Department, and the producers to avoid conflicts (e.g., harvest season and planned roadwork overlapping)

VI. Moving Forward

The agricultural freight study provided an increased understanding and awareness of some of the freight movements that must be accommodated in our transportation network. Moving forward, COMPASS staff will be able to use this valuable data and information as a starting point for expanding the scope to incorporate all forms of freight.

COMPASS received a Second Strategic Highway Research Program (SHRP2) grant in 2015 to better integrate freight into its long-range planning. The grant funds vehicle classification data collection on over 70 sites. These sites were identified using the common or known freight route information and additional information provided by the agricultural freight study.

COMPASS established a Freight Advisory Workgroup to advise freight issues and concerns, and help to develop the freight component for the long-range transportation plan. The multi-year freight planning work plan includes additional data collection and development of an action plan and implementation plan.



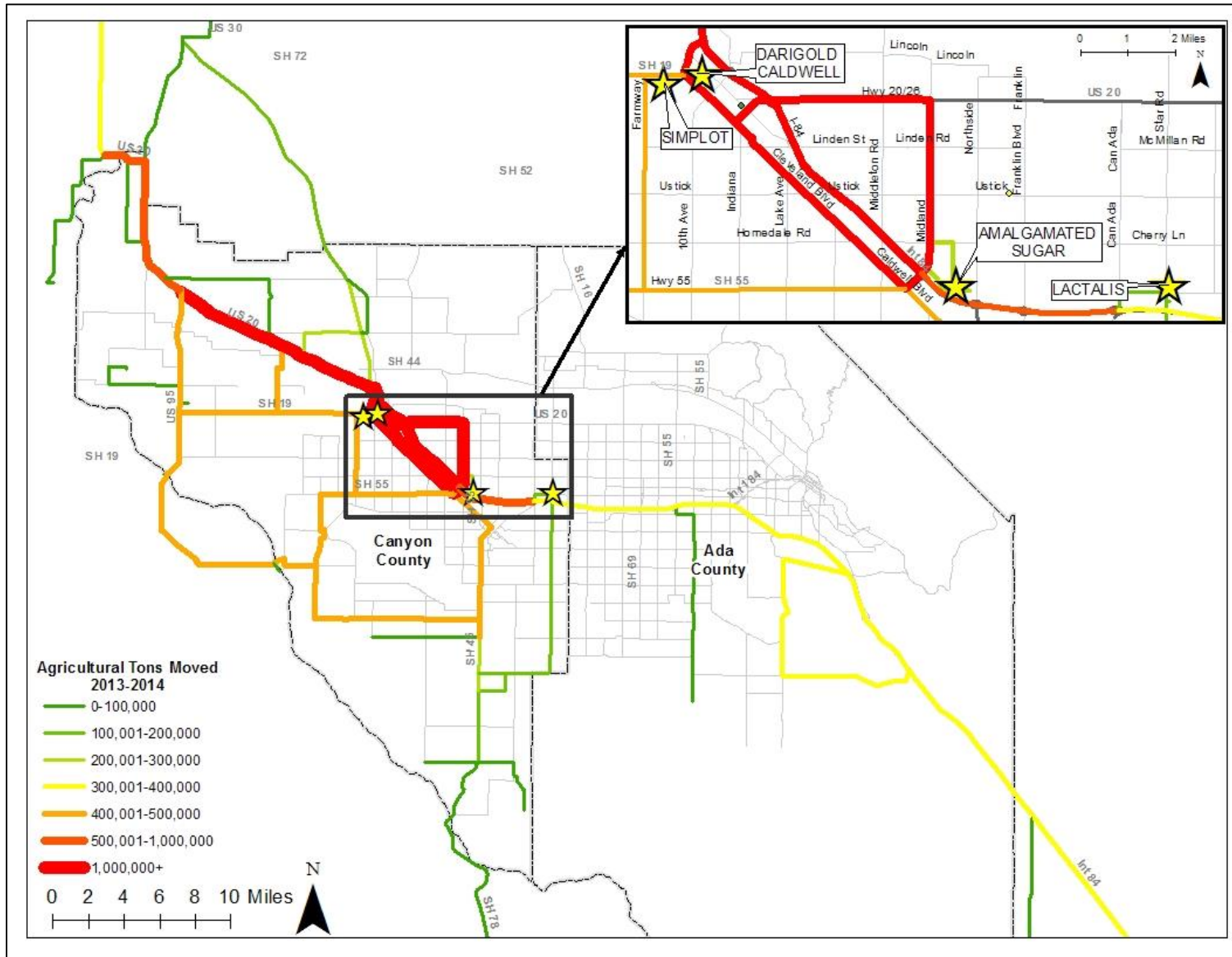
Figure 7. Inaugural meeting of the COMPASS freight advisory workgroup (September 2015)

VII. Conclusion

The 2015 agricultural freight study provides an overview of regional and local freight movement in and around Ada and Canyon Counties, and helps COMPASS incorporate freight data into its regional long-range planning. This study helped identify corridors that may need more frequent maintenance, and locations where improvements could be made to better accommodate the trucks and equipment using them.

An important aspect of the study was to establish relationships with the agricultural freight community and the freight community as a whole. These new relationships were instrumental for compiling the data for the study. They also encouraged participation and feedback among freight producers and processors, freight transporters, and transportation planners. COMPASS will continue to build relationships and encourage collaboration with local agricultural and freight stakeholders.

Appendix A. Map of freight volume by route



Appendix B. Roundabout usage brochure

WHAT TO WATCH FOR

How do bicyclists and pedestrians use roundabouts?

Watch for bicyclists:

- Who may be riding with traffic in the roundabout lanes or walking their bikes across designated crosswalks



Watch for pedestrians:

- Who may be walking across the roadway using designated crosswalks and splitter islands at the roundabout entry points

Safety tip: Always look for nearby cars, bicyclists, and pedestrians when traveling through a roundabout. Some users may not know that large vehicles can use the truck apron, splitter islands, and parallel lanes to complete a turn.

Which roundabouts are used most?



Amity/Happy Valley
Nampa



Pine/Webb
Meridian



Star/Robinson/Franklin
Nampa



HOW TO DRIVE THROUGH ROUNDABOUTS

A GUIDE FOR LARGE TRUCKS
AND OVERSIZE VEHICLES

Ada and Canyon Counties



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Helpful Hints

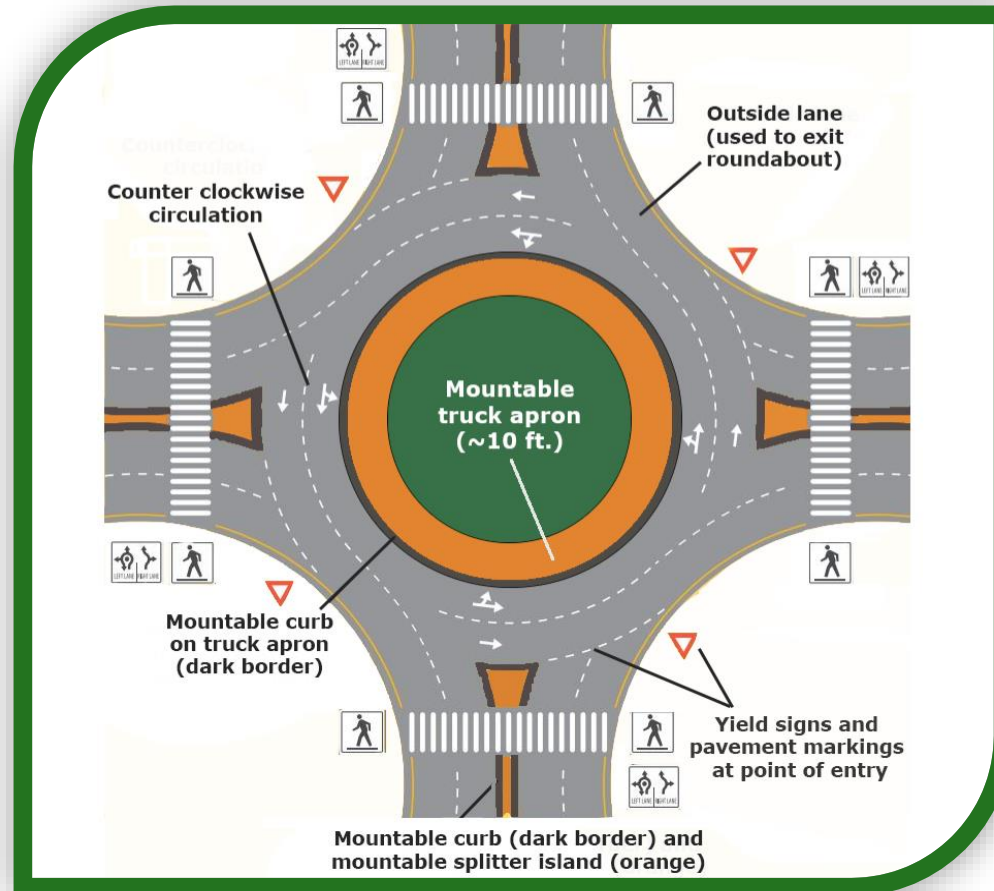
❖ Vehicles use lane guidance signs to choose the appropriate lane for their destinations. Use caution when encroaching into other lanes due to turn radius.



❖ Cars should yield to trucks and oversize vehicles that use both lanes and/or the truck apron. Use caution – cars may not know that trucks can use the apron and splitter islands.



USING A ROUNDABOUT



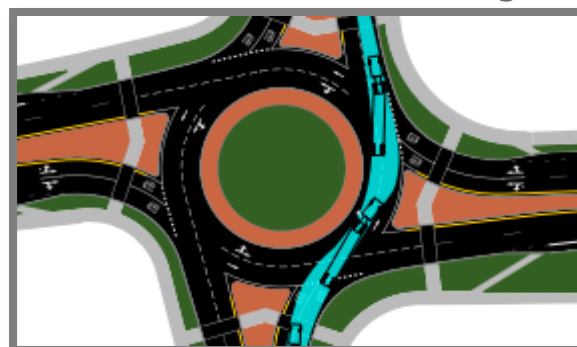
What is a truck apron?

Many roundabouts are designed with a truck apron – a raised section of pavement around the central island that acts as an extra lane for large vehicles. The wheels of an oversize vehicle can ride up the mountable curb and onto the truck apron to more easily complete the turn. The mountable apron and splitters are orange in the graphic on the left.

Maneuvering single- and multi-lane roundabouts in large trucks and oversize vehicles



Making a left turn



Making a through movement



Making a right turn