

Global Gateway Technical Team Freight Benefit Evaluation Results

Benefits	Means of Measurement/Variables of Potential Consideration
Reduction In Cost	Truck freight corridor average travel time and variance
	Time to/from(Modal Connectivity) intermodal facilities to highway and other intermodal facility
	US/Canada border crossing time
	Truck Company Operating Costs: Reduction in fuel consumption
	Total travel delay on truck freight corridors
	Time to/from(Modal Connectivity): Marine terminal/port
	Time to/from(Modal Connectivity): Intermodal facility: rail/truck
	Value of Time: Trucking company cost (\$/mile)
	Value of Time: Driver productivity
	Velocity/average speed of freight per ton
	Value of Time: Trucking company cost (\$/hr)
	Port or other intermodal facility turn time
	Idle time (truck engine running) on truck freight corridors
	Time to/from(Modal Connectivity): Closest airport with air freight service
	Time to/from(Modal Connectivity): Intermodal facility: barge/truck
Truck Company Operating Costs: Vehicle maintenance costs	
Improved Travel Time Reliability	95th percentile travel times: how bad delay will be on specific routes during the heaviest traffic days.
	Planning Time Index: total traveler time allotted to ensure on-time arrival
	Buffer index: extra time that travelers must add to their average travel time when planning trips to ensure on-time arrival.
	Decreased speed variability by hour and day
	Correlating speed variances with average speed
Safety	Reduced Truck-related Incidents: On highways
	Reduced Truck-related Incidents: fatalities and severe injuries
	Reduced Truck-related Incidents: At grade crossings
	Reduced Truck-related Incidents: on corridors
	Reduced Truck-related Incidents: Involving trucks and pedestrians/bicycles
	Reduced Truck-related Incidents: Per Vehicle Mile Traveled (VMT)
	Reduced Truck-related Incidents: Change in insurance costs
Economic Vitality	Productivity Measures: Volume of imports and exports through ports (air, rail, marine, and border)
	Productivity Measures: Volume of freight through Washington State
	Improves job creation and expansion: Number of long-term jobs created or preserved
	Industrial Land Preservation: Total zoned industrial acres-provides access to industrial land-acreage served by truck
	Comparative Advantages for Washington State Transportation Companies: Travel time velocity and reliability compared to other ports
	Productivity Measures: Tax revenue generated by freight-dependent businesses
	Improves job creation and expansion: Average wage of jobs
	Improves job creation and expansion: Number of transportation and warehousing jobs
	Productivity Measures: Volume of discretionary cargo through ports
	Industrial Land Preservation: Acres with close access to major ports &/or interstate highways
	Comparative Advantages for Washington State Transportation Companies: Evidence of port efficiencies
	Productivity Measures: Delivery time (2-hr ring around urban core)
	Improves job creation and expansion: In high-unemployment area
	Improves job creation and expansion: Number of manufacturing or other high-wage jobs not requiring advanced degrees
	Comparative Advantages for Washington State Transportation Companies: Evidence of 'Green' logistics through WA ports
	Improves job creation and expansion: Time from urban freight hub (downtown, port, etc) to regional destinations
	Improves job creation and expansion: In high-poverty area
	Productivity Measures: Change in regional GDP related to imports and exports
Productivity Measures: Value of imports and exports at border crossings and ports	
Improves job creation and expansion: Number of short-term jobs	
Productivity Measures: Value of goods delivered per day	
Environmental Impacts	Total Decreases Vehicle Emissions (PM2.5, NOx, CO2, Diesel PM, Black carbon, Other GHG Emissions)
	Water quality
	Total Disease Risk/rate (Cancer, Cardiovascular disease, Asthma)
	Noise
Resiliency	Improves resiliency of the freight system (ability to restore service quickly after a disruption)
Other Benefits	Household affordability
	Improves land use efficiency/Smart growth
	Improves emergency evacuation network
	Improves disaster preparedness
	Preserves historic district

Highlighted cells were determined to be highest priority by the technical teams

Urban Goods Movement Technical Team Freight Benefit Evaluation Results

Benefits	Means of Measurement/Variables of Potential Consideration
Reduction In Cost	Truck freight corridor average travel time
	Total travel delay on truck freight corridors (including arterials)
	Time to/from(Modal Connectivity): Closest airport with air freight service
	Time to/from(Modal Connectivity): Interstate highway
	Time to/from(Modal Connectivity): Marine terminal/port
	Time to/from(Modal Connectivity): Intermodal facility: rail/truck
	Time to/from(Modal Connectivity): Intermodal facility: barge/truck
	Truck Company Operating Costs: Reduction in fuel consumption
	Port or other intermodal facility turn time
	Idle time (truck engine running) on truck freight corridors
	Value of Time: Driver productivity
	Value of Time: Trucking company cost (\$/mile)
	Value of Time: Trucking company cost (\$/hr)
	Time in security screening processes Truck Company Operating Costs: Vehicle maintenance costs Velocity/average speed of freight per ton
Improved Travel Time Reliability	95th percentile travel times: how bad delay will be on specific routes during the heaviest traffic days.
	Decreased speed variability by hour and day
	Buffer index: extra time that travelers must add to their average travel time when planning trips to ensure on-time arrival.
	Planning Time Index: total traveler time allotted to ensure on-time arrival
	Correlating speed variances with average speed
	Freight related congestion on local streets outside of ports Ability to maintain or increase system capability for transporting over-dimensional vehicles and cargo
Safety	Reduced Truck-related Incidents: In severity
	Reduced Truck-related Incidents: At intersections
	Reduced Truck-related Incidents:
	Reduced Truck-related Incidents: Involving trucks and pedestrians/bicycles
	Reduced Truck-related Incidents: On highways (and arterials)
	Reduced Truck-related Incidents: At grade crossings Reduced Truck-related Incidents: Change in insurance costs
Economic Vitality	Industrial Land Preservation: Acres with close access to major ports &/or interstate highways
	Industrial Land Preservation: Total zoned industrial acres
	Productivity Measures: Volume of freight through Washington State
	Productivity Measures: Volume of imports and exports through ports and border
	Improves job creation and expansion: Time from urban freight hub (downtown, port, etc) to regional destinations
	Improves job creation, retention and expansion: Number of long-term jobs
	Productivity Measures: Change in regional GDP related to imports and exports
	Productivity Measures: Delivery time (2-hr ring around urban core)
	Productivity Measures: Value of goods delivered per day
	Productivity Measures: Volume of discretionary cargo through ports and borders
	Improves job creation and expansion: Number of transportation and warehousing jobs
	Improves job creation and expansion: Average wage of jobs
	Comparative Advantages for Washington State Transportation Companies: Evidence of 'Green' logistics through WA ports
	Comparative Advantages for Washington State Transportation Companies: Evidence of port efficiencies
	Comparative Advantages for Washington State Transportation Companies: Travel time velocity and reliability compared to other ports
	Productivity Measures: Tax revenue generated by freight-dependent businesses
	Productivity Measures: Value of imports and exports at border crossings and ports
	Improves job creation and expansion: In high-poverty area
	Improves job creation and expansion: Number of manufacturing or other high-wage jobs not requiring advanced degrees
	Improves job creation and expansion: In high-unemployment area <i>(Replace with - In distressed areas)</i>
Improves job creation and expansion: Number of short-term jobs <i>(Replace with - Number of jobs retained or created)</i>	
Number of jobs retained or created In distressed areas	
Improved processing at border crossings	
Serves designated MICs or industrial/employment centers	
Environmental Impacts	Total Decreased Vehicle Emissions (PM2.5, NOx, CO2, Diesel PM, Black carbon, Other GHG Emissions)
	Total Disease Risk/rate (Cancer, Cardiovascular disease, Asthma) (Replace with - Health Impacts)
	Water quality
	Noise Improves land use efficiency/Smart growth (moved from Other)
Resiliency	Improves resiliency of the freight system (ability to restore service quickly after a disruption)
	Improves emergency evacuation network (moved from Other)
	Improves disaster preparedness (moved from Other)
Other Benefits	Improves emergency evacuation network
	Improves disaster preparedness
	Improves land use efficiency/Smart growth
	Household affordability Preserves historic district

Highlighted cells were determined to be highest priority by the technical teams

Rural Economies Technical Team Freight System Benefit Evaluation Results

Benefits	Means of Measurement/Variables of Potential Consideration
Reduction In Cost	Time to/from Interstate & Four-Lane Highway (Ag. Processing Centers, distribution centers and Intermodal Centers)
	Port or other intermodal facility turn time
	Truck freight corridor average travel time
	Time to/from(Modal Connectivity): Highway to Marine terminal/port
	Total travel delay on truck freight corridors
	Time to/from(Modal Connectivity): Intermodal facility: rail/truck
	Truck Company Operating Costs: Reduction in fuel consumption
	Time in security screening processes
	Value of Time: Trucking company cost (\$/mile)
	Value of Time: Trucking company cost (\$/hr)
	Time to/from(Modal Connectivity): Intermodal facility: barge/truck
	Value of Time: Driver productivity
	Idle time (truck engine running) on truck freight corridors
	Time to/from(Modal Connectivity): Closest airport with air freight service
Velocity/average speed of freight per ton	
Truck Company Operating Costs: Vehicle maintenance costs	
Improved Travel Time Reliability	Buffer index: extra time that travelers must add to their average travel time when planning trips to ensure on-time arrival.
	Planning Time Index: total traveler time allotted to ensure on-time arrival
	95th percentile travel times: how bad delay will be on specific routes during the heaviest traffic days.
	Decreased speed variability by hour and day
	Correlating speed variances with average speed
Safety	Reduced Truck-related Incidents: At intersections (severity and freq.)
	Reduced Truck-related Incidents: On highways (severity and freq.)
	Reduced Truck-related Incidents: In severity
	Reduced Truck-related Incidents: At grade crossings
	Reduced Truck-related Incidents: Per Vehicle Mile Traveled (VMT)
	Reduced Truck-related Incidents: Involving trucks and pedestrians/bicycles
Reduced Truck-related Incidents: Change in insurance costs	
Economic Vitality	Improves job creation and expansion: Number of long-term jobs and wages
	Industrial/Commercial Land Access and Availability: Acres with close access to major ports &/or interstate highways
	Improves job creation and expansion: Time from urban freight hub (downtown, port, etc) to regional destinations
	Comparative Advantages for Washington State Transportation Companies: Travel time velocity and reliability compared to other ports
	Comparative Advantages for Washington State Transportation Companies: Evidence of port efficiencies
	Productivity Measures: Volume of imports and exports through ports
	Productivity Measures: Change in regional GDP related to imports and exports
	Productivity Measures: Delivery time (2-hr ring around urban core)
	Improves job creation and expansion: Average wage of jobs
	Productivity Measures: Tax revenue generated by freight-dependent businesses
	Improves job creation and expansion: Number of transportation and warehousing jobs
	Productivity Measures: Value of goods delivered per day
	Productivity Measures: Volume of freight through Washington State
	Improves job creation and expansion: In high-unemployment area
	Improves job creation and expansion: Number of manufacturing or other high-wage jobs not requiring advanced degrees
	Productivity Measures: Volume of discretionary cargo through ports
Improves job creation and expansion: In high-poverty area	
Productivity Measures: Value of imports and exports at border crossings and ports	
Comparative Advantages for Washington State Transportation Companies: Evidence of 'Green' logistics through WA ports	
Industrial Land Preservation: Total zoned industrial acres	
Improves job creation and expansion: Number of short-term jobs	
Environmental Impacts	Total Decreases vehicle emissions (per unit of freight moved)
	Noise
	Water quality
	Total Disease Risk/rate
Resiliency	Improves resiliency of the freight system (ability to restore service quickly after a disruption)
Other Benefits	Improves disaster preparedness
	Improves emergency evacuation network
	Improves land use efficiency/Smart growth
	Household affordability
	Preserves historic district

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