UIPA Scenarios Comparison 2050 OUTLOOK





Introduction

The Utah Inland Port Authority began the Public Engagement process with Envision Utah in February 2019. Throughout 2019, Envision Utah conducted three public forums and numerous stakeholder meetings. Early in the year, an online survey of over 3,500 Utahns collected an inventory of the most important concerns and priorities for the future of the Utah Inland Port Authority's (UIPA's) jurisdictional area. In October 2019, Envision Utah released a Public Engagement Report outlining the findings from many months of engagement with stakeholders and the public.

The report's findings affirmed that air quality, wetland and habitat impacts, and traffic are top concerns of both the community and stakeholders for the Utah Inland Port. In addition, this report emphasized the need for collaboration among key players including landowners, developers, trucking companies, railroad operators, businesses, communities, and municipalities as well as the UIPA to achieve desired outcomes. Throughout the public engagement process, there were still many questions regarding the UIPA's powers and what would become of the current Utah Inland Port area. The UIPA responded by undertaking a scenario process to help inform the business plan and to explore some of the potential outcomes of UIPA and partner actions.

Process

As part of the strategic business plan development process, the Utah Inland Port Authority developed four policy-focused scenarios for the current jurisdictional area to explore key themes that emerged from public engagement. The scenarios represent a spectrum of plausible policy approaches from UIPA and indicate the potential outcomes of each approach.

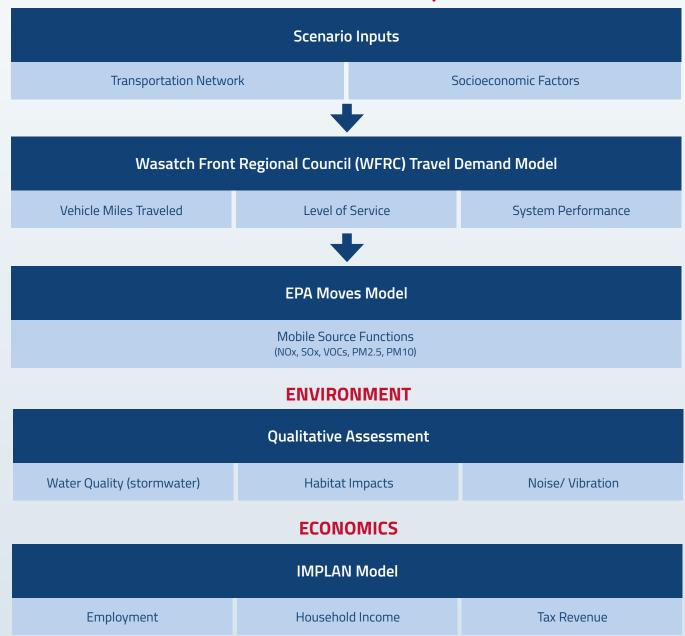
Envision Utah worked with six topic-specific working groups to generate ideas and craft the scenario themes. These topics were:

- Environment, Recreation, and Habitat
- Roads, Rail, and Air
- Transportation and Port Technology
- Air Quality
- Workforce, Education, & Corporate Recruitment
- Satellite Port Development.



An open house and comment period were held in December 2019 to allow stakeholders and community members to assess the themes, assumptions, and roles of key players. The scenarios were then modeled to demonstrate potential outcomes of various policy decisions. Scenario development and modeling is an illustrative exercise in order to examine the relative differences of potential policy approaches. Modeling was conducted by CPCS Transcom Inc. as part of the Strategic Business Plan development process. The modeling process used existing datasets and models that are already widely used in the Wasatch Front, including the Wasatch Front Regional Council (WFRC Travel Demand Model), the Governor's Office of Economic Development and the Economic Development Corporation of Utah (IMPLAN), the Utah Department of Environmental Quality (EPA MOVES Model), and other agencies. Full details on the modeling process are included in the Technical Appendix.

TRANSPORTATION AND AIR QUALITY





Scenarios

The themes of the scenarios are: *Baseline, North of I-80 Land Purchase, UIPA Current Capabilities,* and *Enhanced UIPA Capabilities and Partners.* For full scenario descriptions including assumptions and key stakeholder roles see Figure 1.

Scenario	Description
SCENARIO 1: Baseline	The NW Quadrant develops under the current zoning, plans, and market forces without intervention by UIPA.
SCENARIO 2: North of I-80 Land Purchase	UIPA acquires unentitled lands north of I-80 to remove from development.
SCENARIO 3: UIPA Current Capabilities	UIPA promotes sustainable and smart logistics solutions using tax differential funds with the aim of enhancing economic, environmental, and community outcomes.
SCENARIO 4: Enhanced UIPA Capabilities & Partners	Legislature grants UIPA additional authorities; others (legislature, state and regional agencies, municipalities, landowners, developers, railroads, trucking companies, etc.) collaborate to advance economic, environmental, and community outcomes.

In the *Baseline* scenario (Scenario 1), the UIPA does not attempt to affect the course of development, nor does it use the tax differential to advance desired activities and outcomes. Instead, development continues in accordance with current zoning and plans. This includes the Northwest Quadrant Master Plan and the development agreements granted by Salt Lake City. Demand for logistics is rapidly growing, and the jurisdictional area, which is well served by multimodal transportation infrastructure, is some of the last remaining undeveloped land in Salt Lake County. This puts the area in high demand, especially for industries such as manufacturing and distribution. Much of the land is privately owned and zoned for development, and many landowners have development agreements with municipalities locking in the right to develop. Thus, without the influence of the UIPA, the area will continue to develop under market forces according to the plans set by the municipalities and landowners. This baseline scenario case is based on the Wasatch Front Regional Council model's outlook for 2050.



Many members of the public want to see reduced development north of I-80 due to habitat and water quality concerns. In the *North of I-80 Land Purchase* scenario (Scenario 2), the UIPA's authority is expanded to include land conservation, and the UIPA uses its property tax differential and other available funding to purchase all unentitled land from landowners north of I-80, meaning land that, while zoned for light industry, has not already been approved for development by the city. Approximately 25% of the land north of I-80 is unentitled, and this scenario assumes the UIPA can acquire all this land. The purchased land is then permanently preserved through conservation easements or similar mechanisms. In this scenario, it is likely that the market demand that would have caused the preserved land to develop will shift to other locations on or near the Wasatch Front, but to simplify the modeling analysis a reduced total amount of development is assumed. Under this scenario, remaining development that does occur in the jurisdictional land will not be enhanced through UIPA programs and policies that advance public goals as all available funding would be earmarked for acquisition of unentitled land north of I-80.

In Scenarios 3 and 4, the UIPA uses its property tax differential to advance use of best available technology and improve environmental and community practices. A set of policies and programs was identified as most important and impactful. These policies and programs fall into four main categories: Improve Economic Opportunities, Advance Environmental Sustainability, Enhance Community Trust, and Achieve Operational Excellence (Figure 2). In the UIPA Current Capabilities scenario (Scenario 3), the policies and programs the UIPA can fund are limited to the existing revenues and powers of the UIPA. The scenario also assumes that the policies and programs the UIPA does fund are fully utilized by the land and business owners. In the Enhanced UIPA Capabilities and Partners scenario (Scenario 4), the UIPA is given additional authority and/or funding through the legislature, which allows more of the programs to be implemented. This scenario also assumes that other players (developers, landowners, trucking and rail companies, municipalities, etc.) actively contribute to policies, programs, and practices to advance publicly supported goals.

Results



Economy

Economic performance was measured in employment numbers, labor income, GDP, and economic output. Scenario 2 results in less economic growth than the baseline scenario (Scenario 1) due to the purchase of land and the assumption that the jobs that would have located on that land do not shift elsewhere in the Wasatch Front. Further, Scenarios 3 and 4 use the tax differential to different degrees to stimulate economic opportunities related to high-quality and high-paying jobs and value-added opportunities.



ECONOMIC TRENDS

2010-2016

+3.4% Utah Annual Employment Increase

2019-2050

+3.2% UIPA Area Annual Employment Increase

TOP SECTORS: GOVERNMENT, TRANSPORTATION/WHOLESALE TRADE, OFFICE

NEW JOBS IN UIPA AREA 2019-2050

Baseline 54,270 jobs

Scenario 2 44,727 jobs —

Scenario 3 58,781 jobs

Scenario 4 64,376 jobs



ECONOMIC OUTPUT ACROSS WASATCH FRONT

Difference between 2050 baseline and Scenarios 2-4

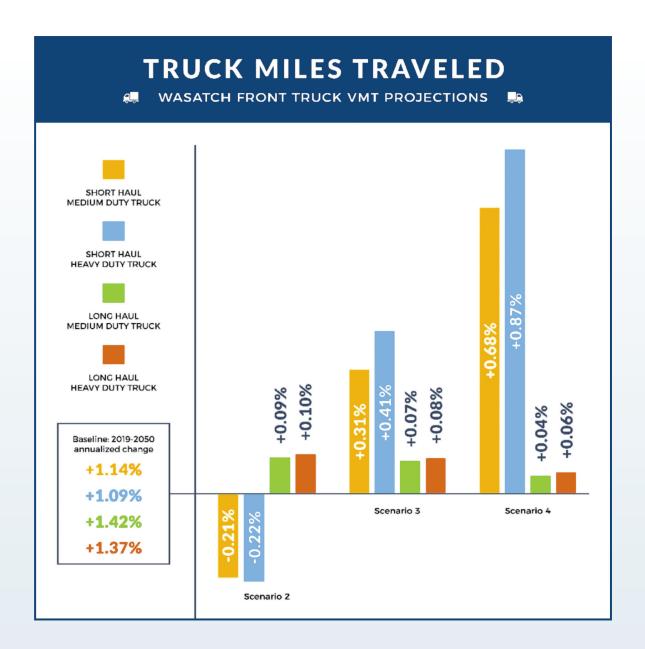
Direct, Indirect, and Induced Combined	Scenario 2 North of I-80 Land Purchase	Scenario 3 UIPA Current Capabilities	Scenario 4 Enhanced UIPA Capabilities & Partners
Labor Income	-\$657 million	+\$729 million	+\$1.62 billion
Value-Added (GDP)	-\$934 million	+1.2 billion	+\$2.7 billion
Regional Employment	-16,888	+10,545	+23,457



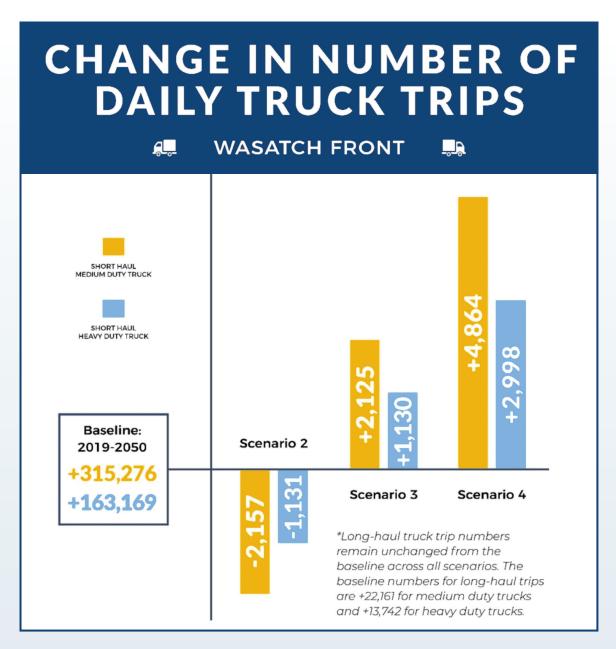
Transportation and Congestion

Transportation performance was measured in annual Vehicle Miles Traveled (VMT) and average daily truck trips. VMT here is the total miles driven by all on-road vehicle types over the entire Wasatch Front during a year. With any type of development, VMT typically rises for both personal and commercial vehicles, unless sustainable infrastructure and strategic policy measures are planned ahead of time. Similar to economic performance, total annual VMT and average daily truck trips are lower in Scenario 2 compared to the baseline due to less development. Scenario 4 sees twice as many new daily trips as Scenario 3 due to the increased economic activity. These scenarios do not incorporate the outcomes of UIPA policies and programs to promote a shift from truck to rail activity nor diversion of cargo transloading from the Wasatch Front to satellite locations, which would reduce congestion and traffic outcomes in the Wasatch Front. VMT is an indicator of users of the transportation system's impact on the environment, although infrastructure improvements, truck route designations, and other steps can reduce congestion impacts.











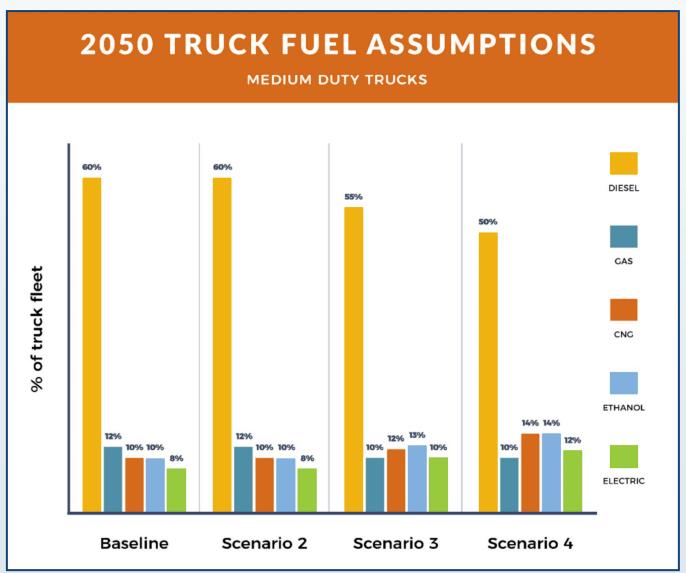
Air quality is the most important issue on Utahns' minds regarding development in the UIPA area. Vehicle emissions were the main source studied here because this is where the UIPA can be most impactful.¹ The factors that most impact how polluting a truck will be are its age and fuel source. The truck age and fuel

¹ UIPA does not have land use nor environmental regulatory authority but can work with local agencies to potentially influence area source emissions through agreements with building owners, developers, or freight operators that are tied to the use of tax differential. This might include agreements related to buildings that are developed in the area to achieve higher emission standards, cleaner fleets and equipment, and also non-road emissions from locomotives operating in the UIPA area. Those emissions have not been modeled as part of this scenarios analysis due to a lack of existing data around these sources. Further, the UIPA has limited ability to influence area, non-road, and airplane emissions.



source in the baseline are equivalent to today's approximate breakdown (see Technical Appendix for data sources). In Scenario 2, the tax differential is dedicated to purchasing land for preservation, so there are no programs in place to affect the truck types that will serve the developed portions of the land. Therefore, the truck age and fuel source breakdowns are equivalent to the baseline. There are, however, fewer truck trips overall, contributing to a small decrease in emissions. In Scenario 3, there are programs and policies to shift the truck fleet over to newer trucks that run on cleaner fuels. In Scenario 4, the decrease in emissions is more pronounced because actors are voluntarily shifting to these trucks in addition to the effect of the UIPA programs and policies.

Fleet Changes:



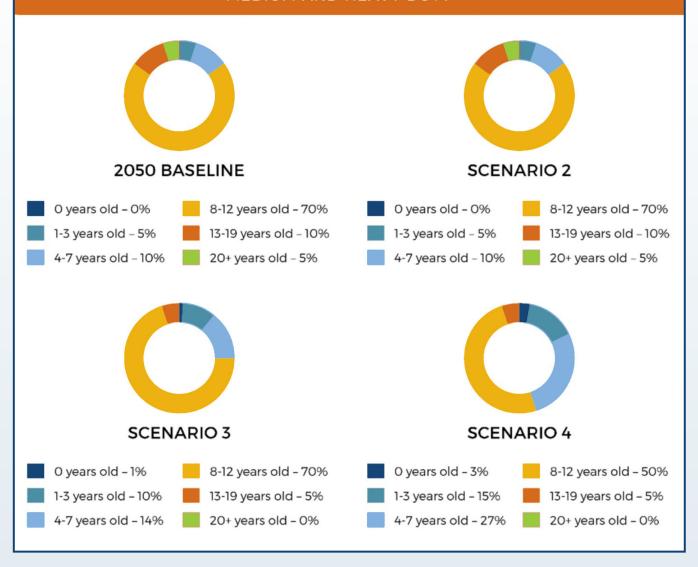


2050 TRUCK FUEL ASSUMPTIONS HEAVY DUTY TRUCKS 70% 60% DIESEL % of truck fleet GAS CNG ETHANOL 12% 12% 10% _{9%} 8% 8% 8% 5% 5% 5% 5% 5% 5% ELECTRIC **Baseline** Scenario 2 Scenario 3 Scenario 4



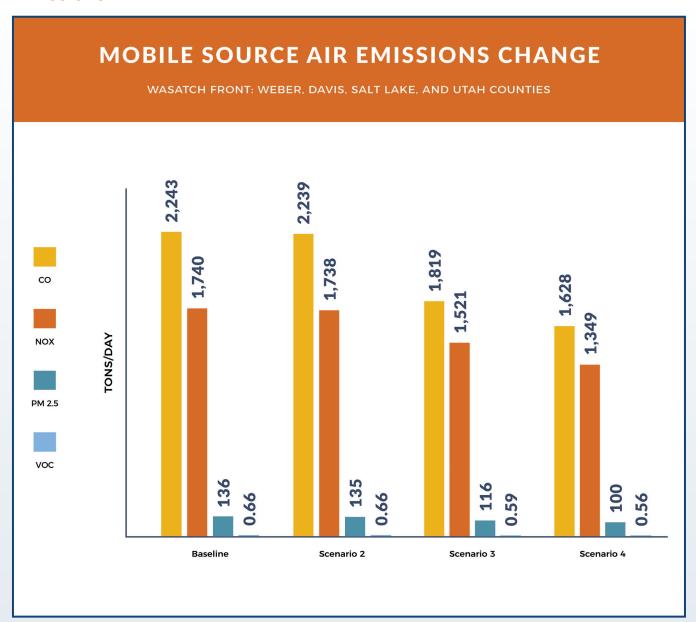
TRUCK ENGINE AGE ASSUMPTIONS

MEDIUM AND HEAVY DUTY





Emissions:







Environment and Community:

The UIPA does not have primary land use authority over the jurisdictional area; therefore, coordination with all public agency and private sector partners is needed to implement best practices for the community and natural environment. Any sustainable strategies encouraged by the UIPA to address land use issues such as noise, scenery, vibration, and contamination must be adopted by key partners. Thus, the success in the following categories is qualitatively assessed based on the best available practices and the assumed degree of adoption by key stakeholders in the area.

Water Resources

Mitigating potential impacts to surface water, habitat, and floodplains and providing appropriate and adequate infrastructure to manage stormwater and drainage is critically important. Because UIPA does not have land use authority within its jurisdictional area, collaboration with local government entities to conduct site planning early in the process is key to avoid negative impacts, reduce overall costs, and minimize the need for future retrofitting. Sustainable strategies related to water resources may address conveyance and drainage, stormwater and hydrology, groundwater, floodplains, surface water habitat and wetlands, water supply, water quality, and other matters.

Key priority strategies considered in the scenarios were as follows:

Short-Term

- Collaborate with municipalities and UDEQ to require stormwater quality control measures for all polluting generating surfaces, such as media treatment, stormwater settling wetponds, and biofiltration
- Encourage the incorporation of green-stormwater infrastructure in site development (e.g. rain gardens, green roofs, porous pavement)
- Coordinate with local jurisdictions to reduce impervious surface requirements

Long-Term

- Consider the preparation of a comprehensive UIPA jurisdictional area drainage plan, an entity to manage a shared drainage system, and construct facilities
- Define waters of the U.S. and floodable extents and establish critical infrastructure in flood emergency plan



If current trends continue through 2050, adverse impacts to water resources are expected through the addition of impervious surfaces and potential development activities occurring in key resource areas such as floodplains and wetlands. Mitigation assumed for these development activities falls under existing applicable local, state, and/or federal regulations. Thus, the baseline scenario is the lowest performing.

Scenario 2 has a moderate performance compared to the baseline through the reduction in use of water resources through purchase of 25 percent of the land north of I-80. This decreases the overall amount of development in the UIPA area but provides no long-term mitigation strategy for the development that does occur.

Scenario 3 similarly has a moderate performance compared to the baseline. Those that operate in the UIPA area voluntarily participate in best practices for stormwater, drainage, groundwater, floodplains, and other water resources. However, this participation is non-enforceable which limits the overall benefit.

Scenario 4 is the highest performing compared to the baseline. Those that operate in the UIPA area have high participation in best practices for stormwater, drainage, groundwater, floodplains, and other water resources. Further, the UIPA coordinates with stakeholders and agencies which results in enhanced zoning and regulations.

Natural Habitat and Wetlands:

Within the UIPA area, there are over 400 acres of wetlands. Several species may be present in and around the UIPA's jurisdictional area that could be protected under the Endangered Species Act (ESA) and the Migratory Bird Treaty Act. In addition to these federally listed species, state listed sensitive species and game species and habitat may be present in the area. Because UIPA does not have land use authority within its jurisdictional area, collaboration with local government entities to conduct site planning early in the process is key to avoid negative impacts.

Key strategies considered in the scenarios were as follows:

Short-Term

- Avoid building new structures within 300 feet of vegetated areas larger than 2 acres, open water, or high-quality wetlands.
- Participate in Lights Out Salt Lake, which encourages building owners to turn off unnecessary indoor and outdoor lighting during peak migration periods (March-May and August-October).
- Consider reduction of bird collision risk through patterned glass, louvers, or awnings that reduce the apparent flythrough space.
- Encourage the use of native plants and sustainable landscaping practices that enhance habitat and reduce water use



Long-Term

- Explore options for creating a wetland mitigation bank to offset impacts to wetlands and wetland buffers
- If necessary, investigate and encourage the use of mosquito control products and procedures that are narrowly targeted
- Explore opportunities for transfer of development rights to promote development in areas away from key water and natural resources.

Assuming current trends continue through 2050, adverse impacts to habitat and wetlands would be expected through the destruction of natural resources through development activities. Mitigation for these development activities falls under applicable local, state, and/or federal regulations. Thus, the baseline is the lowest performing.

Scenario 2 has a moderate performance compared to the baseline due to a reduction in developable area through purchase of 25 percent of the land north of 1-80. This protects the unentitled land which may have varying habitat value.

Scenario 3 has a moderate performance compared to the baseline. Those that operate in the UIPA area voluntarily participate in best practices for habitat and wetlands. However, this is participation is non-enforceable which limits the overall benefit.

Scenario 4 is the highest performing compared to the baseline. Those that operate in the UIPA area have high participation in best practices for habitat and wetlands. Further, the UIPA coordinates with stakeholders and other agencies resulting in enhanced zoning and regulations.

Noise and Vibration:

Comprehensive planning is required to implement the most environmentally sustainable land use practices, as opposed to parcel-by-parcel. As UIPA has no land use authority in its jurisdictional area, coordination with all public agency and private sector partners is needed to implement best practices. UIPA may consider sustainable strategies to address land use issues such as noise, visual, vibration, land use, schools and neighborhoods, and contamination.

Key strategies considered in the scenarios were as follows:



Short-Term

- Encourage site planning and site layout strategies to minimize noise impacts on sensitive receivers (residences, schools, parks, etc.)
- Encourage site planning that uses techniques to reduce visual impacts (downward facing light, use of LEDs and CFL warm-colored bulbs, adaptive light controls)

Long-Term

- Coordinate with local agencies to minimize land use conflicts between activities occurring within the UIPA jurisdictional area and adjacent sensitive uses through zoning, easements, form-based codes, establishment of transition zones, and channeling of warehouse and distribution center developments to sites with freight rail access
- Create programs to promote educational opportunities and training from businesses within the UIPA to nearby schools and communities

Assuming current trends continue through 2050, noise and vibration impacts would increase due to additional vehicular and rail activities, and through daily operations of businesses in the area. These activities would create localized noise and vibration that could impact sensitive receivers if activities occur in their proximity. Noise and vibration could also affect wildlife if occurring near active nests, feeding areas, and other critical habitat. Thus, the baseline has the lowest performance.

Scenario 2 is moderate performing compared to the baseline. There is a lack of sensitive receivers (residences, schools, parks) near the proposed unentitled lands, so the acquisition of this land will not result in increased benefit to neighborhoods. There may be a slight benefit from reduced noise to wildlife for acquired parcels that are located near active nests, feeding areas, and other critical habitat.

Scenario 3 is moderate performing compared to the baseline. Those that operate within the UIPA area voluntarily participate in best practices to reduce noise and vibration outcomes. However, this is non-enforceable which limits the overall benefit.

Scenario 4 is the highest performing compared to the baseline. Those that operate within the UIPA area have high participation in best practices for reductions in noise and vibration outcomes. Further, the UIPA coordinates with stakeholders and other agencies resulting in enhanced zoning and regulations.





Conclusion

Based on the scenario modeling, Scenarios 3 and 4 will lead to better economic, air quality, water, habitat, noise, and vibration outcomes. For this reason, the strategic business plan is designed to implement Scenario 3, with the ability to achieve Scenario 4 should additional authority be granted and/or other actors proactively partner with UIPA to achieve desired outcomes.



Figure 1: The following chart describes the four scenarios that were evaluated including the assumptions and role of key stakeholders.

GOALS	IMPROVE ECONOMIC OPPORTUNITIES	ADVANCE ENVIRONMENTAL SUSTAINABILITY	ENHANCE COMMUNITY TRUST	ACHIEVE OPERATIONAL EXCELLENCE
Focus Areas	 High-quality jobs, incomes, value added Workforce training Logistics-dependent industry Small businesses Satellite Ports 	 Air quality and GHG Water quality Wetlands and wildlife 	 Public perception Community health Look and feel of the community Noise, vibration, and traffic 	 Customer Satisfaction Financial Health Research & Innovation
Policies	 Logistics-dependent industry policies Workforce planning Satellite port policies Foreign Trade Zone policies 	 Energy efficiency and emission guidelines (e.g. solar power battery storage, enhanced microgrid technologies, etc.) Site access planning Information and Communications Technology policies (e.g. 5G network, dynamic vehicle routing and scheduling, real-time data sharing) 	 Vehicle and construction noise guidelines Community betterment policies Complete Streets/safety improvement plans Designated truck route guidelines 	 UIPA Corporate Affairs: internal policies focused on customer satisfaction and financial health
Programs	Strategic incentives focused on logistics solutions. Logistics related small business assistance programs Workforce development focused on sustainable logistics and supply chains	Freight Sustainability (net zero-emission) - Clean fleet and locomotive purchase incentives - Truck parking incentives - Charging & clean energy fueling infrastructure incentives - Clean construction equipment incentives - Clean cargo-handling equipment incentives - Clean cargo-handling equipment incentives - Teo-Driving" Training Other Sustainability - Renewable energy purchases - Responsible sourcing/procurement training program (e.g. packaging methods) - Industry mitigation (dust and other actions) Water Quality - Best practice in stormwater and drainage, groundwater, floodplains, wetlands, water supply, water quality - Wetlands and Wildlife - Wetlands And Swap Program - Other measures for habitat, wildlife, migratory birds Community - Measures for noise, visual, land use, landfill contamination, schools and neighborhood	Community Daycare and After-School programs Community Facility Grants (e.g. HVAC systems, dualpaned windows, etc.) Community Health Service Grants (e.g. mobile asthmaclinic) Community Tree-Planting Grants Affordable Housing Affordable Housing	Research and Innovation Program (e.g. aerodynamics/fuel efficiency, blockchain, automation, platooning, electrification, LNG, hydrogen fuel testing)



Figure 2: The following chart outlines the four categories of potential policies and programs that were considered when evaluating the scenarios.



Figure 2 (continued)

CED UIPA ARTNERS	atory mater/water ng-term entation (e.g. ng, transit Mountain	· for their veloping ntal unity benefit unity grant	y purpose grams tial funding ed powers ith all e desired ntal, and ntal, and s, leveraging s and	JIPA e.g. shared brs, utilities ced nuding and public-
SCENARIO 4: ENHANCED UIPA CAPABILITIES AND PARTNERS	 Amend current regulatory standards (e.g. stormwater/water quality) Fully participate in long-term planning and implementation (e.g. statewide truck routing, transit planning such as on Mountain View Corridor) 	 Continue to advocate for their positions Fully participate in developing enhanced environmental standards and community benefit programs (e.g. community grant programs) 	 Fulfills UIPA statutory purpose Sets policies and programs based on tax differential funding amounts and enhanced powers Works successfully with all stakeholders to realize desired economic, environmental, and community outcomes, leveraging additional authorities and strengthened relationships 	 Broaden purpose of UIPA under state statute (e.g. shared freight-transit corridors, utilities infrastructure, advanced technologies, etc.) Provides additional funding and financing options (e.g. public- private partnerships)
SCENARIO 3: UIPA CURRENT CAPABILITIES	 Continue under current regulatory standards Cooperate in long-term planning and implementation (e.g. additional air quality monitoring) 	 Continue to advocate for their positions Cooperate in developing enhanced environmental standards and community benefit programs (e.g. daycare/ afterschool programs) 	 Fulfills UIPA statutory purpose Sets policies and programs based on existing tax differential funding amounts and powers 	 No changes to current laws, statutes, or regulations
SCENARIO 2: NORTH OF I-80 LAND PURCHASE	 Continue under current regulatory standards 	 Continue to advocate for their positions Potentially manage acquired lands for preservation Potential source of land acquisition funds 	 Acquires unentitled land north of I-80 at current market values for non-port purposes Continue to fulfill UIPA statutory purpose 	 Grants UIPA authority to purchase unentitled land north of I-80 for non-port purposes Broaden purpose of eminent domain under state statute (allow taking for open space purposes) Provides necessary funding sources
SCENARIO 1: BASELINE	 Continue under current regulatory standards 	 Continue to advocate for their positions 	 Not Active in the NWQ 	 No changes to current laws, statutes, or regulations
	State and Regional Agencies	Nonprofits/ NGOs	Suodsəy pup səloy	Legislature





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Data and Modeling Support







