



2022 Northwest Quadrant Sustainability Action Study

Report Findings and Recommendations

Prepared for the Utah Inland Port Authority by CPCS

Acronyms / Abbreviations

BIL	Bipartisan Infrastructure Law
CRISI	Consolidated Rail Infrastructure and Safety Improvements
DOE	Department of Energy
EPA	Environmental Protection Agency
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
FCE	Fuel-Cell Electric
HB	House Bill
JA	Jurisdictional Area
kW	Kilowatt
kgH2	Kilograms of Hydrogen
LID	Low Impact Development
MW	Megawatt
NWQ	Northwest Quadrant
PM2.5	Fine Inhalable Particles, with Diameters that are Generally 2.5 Micrometers and Smaller
SAS	Sustainability Action Study
SLCDPU	Salt Lake City Department of Public Utilities
SITLA	School and Institutional Trust Lands Administration
SLC	Salt Lake City
SLCRDA	Salt Lake City Redevelopment Agency
SLGW	Salt Lake Garfield & Western
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
TEU	Twenty-Foot Equivalent Units
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UDWR	Utah Division of Wildlife Resources

UIPA	Utah Inland Port Authority
UP	Union Pacific
UTA	Utah Transit Authority
V2B	Vehicle-To-Building
V2G	Vehicle-To-Grid
V2V	Vehicle-To-Vehicle
WFRC	Wasatch Front Regional Council
ZE	Zero-Emission
ZNZE	Zero- and Near-Zero-emission

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Why a Utah Inland Port Authority Sustainability Action Study?

Why Is Sustainability Important to UIPA?

The Utah Inland Port Authority (UIPA) jurisdictional area (JA) covers approximately 16,000 acres in northwestern Salt Lake City (SLC), as well as parts of northern West Valley City and Magna Town. This area is significantly larger than many well-known maritime ports in the United States (US), including the Port of Los Angeles (7,500 acres), the Port of Savannah (1,345 acres), and the Port of Seattle (570 acres).

The area's significant amount of undeveloped land represents both an opportunity and a challenge. The region has experienced recent growth in freight activity, a trend that is expected to continue over the coming decades alongside regional population growth, e-commerce demand, and nearby multimodal transportation facilities. However, portions of the JA include environmentally sensitive lands, such as migratory bird nesting areas and other wildlife habitats, critical natural and water resources, open space, and other important features. It is thus necessary to balance industrial development in the area with sustainable strategies to mitigate any resulting adverse environmental or quality-of-life impacts.

Economic Empowerment and Environmental Stewardship

Sustainable economic growth is key to meeting the needs of today and future generations. To do so, it is essential to protect and preserve environmentally sensitive areas and critical natural resources, adapt to the effects of climate change, and minimize the negative impacts of development and transportation on air quality and resource availability. The Sustainability Action Study (SAS) is a strategic document that empowers balanced economic growth by articulating a vision for sustainable development and environmental stewardship, along with how this vision can be integrated into various decision-making levels. The SAS also **lays the foundation for the development of UIPA's Master Plan**, which is intended to provide a detailed roadmap for investments in implementing the SAS's strategic recommendations.

What Is the Foundation for Sustainability in the UIPA Area?

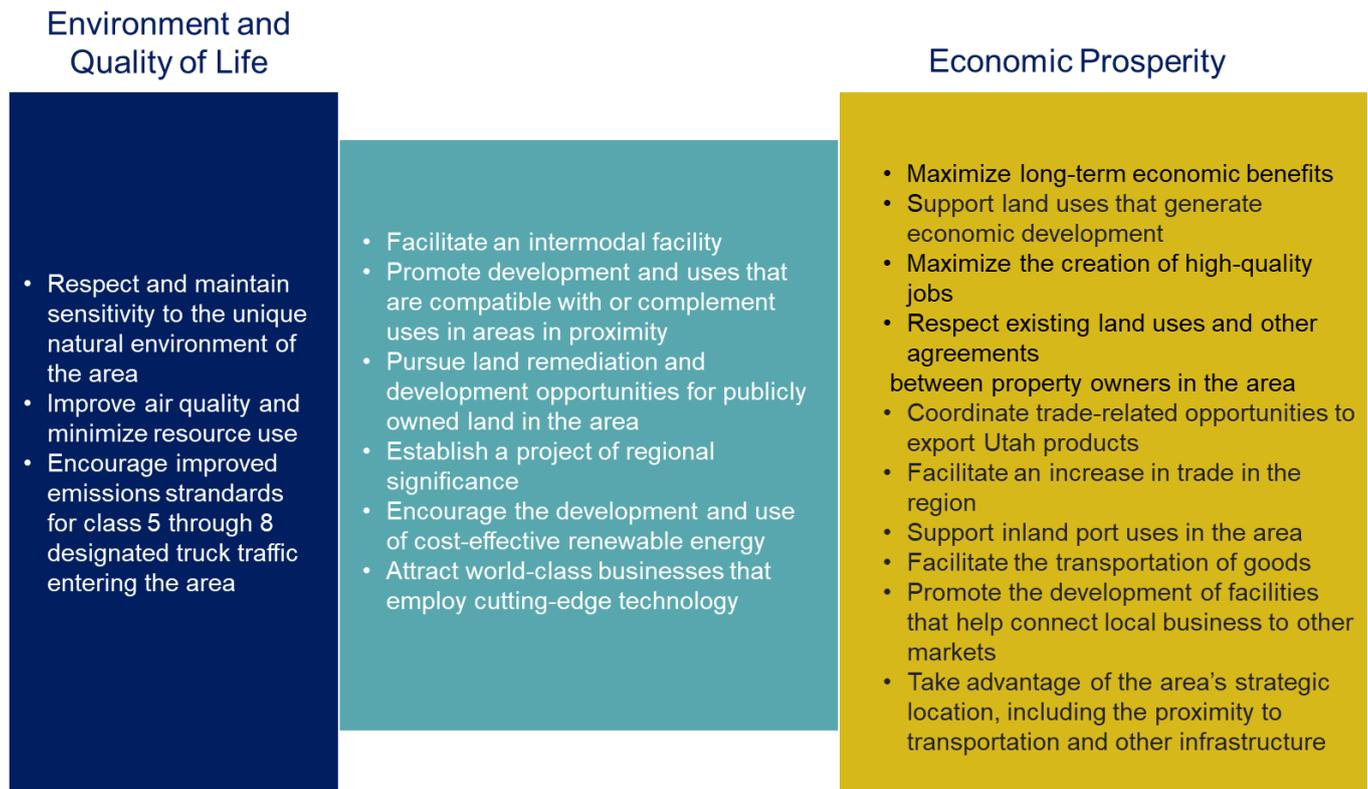
UIPA's duty to encourage sustainable development in project areas is an important aspect of fulfilling its mission. Even with existing mechanisms to guide development within the JA, including SLC's Northwest Quadrant Master Plan and Salt Lake County's West General Plan, there are no guarantees that the market alone could achieve this vision. UIPA recognizes the tremendous potential for the northwest quadrant (NWQ) to lead the region in sustainable development, and is, therefore, taking leadership in implementing a regional sustainability vision to create economic opportunity while protecting and preserving the area's sensitive environment and communities' quality of life.

UIPA's enabling and amended legislation—Utah State Code Title 11, Chapter 58 and Utah House Bill (HB) 443—tasks the authority with the cultivation of development projects that:

- Respect the area's existing natural environment and land use conditions
- Support the continued growth of the state's economy
- Improve air quality and minimize resource use
- Work in concert with and coordinate the efforts of all applicable stakeholders
- Develop incentives to encourage green technology adoption in supply chain
- Implement world-class, state-of-the-art, zero-emissions logistics

UIPA’s enabling legislation also outlines certain guiding policies and objectives that enable sustainable growth. These are summarized in Figure 1 with the middle category acting as a bridge between the environment and economy.

FIGURE 1: UIPA ENABLING LEGISLATION POLICIES AND OBJECTIVES



Source: UIPA amended legislation, HB 443, 2022.

This articulation is consistent with both UIPA and SLC’s vision statements regarding development within the NWQ:

UIPA Strategic Business Plan:

“As a state entity, the UIPA has a unique role to coordinate a statewide economic development and logistics system to ensure long-term sustainability and statewide value.”

SLC’s Northwest Quadrant Master Plan:

“The Northwest Quadrant will be a new sustainable area of Salt Lake City that: respects the unique nature of the Great Salt Lake and surrounding environment,” “includes an ecologically oriented industrial park that helps drive the City’s economic and natural resource protection goals,” and “is an economic engine for the city, region, and State.”

The enabling legislation is explicit in its focus on implementing sustainable supply chain logistics, preserving the natural environment, and minimizing negative externalities. The UIPA must “pursue policies that the board determines are designed to avoid or minimize negative environmental impacts of development.”¹

UIPA’s sustainability vision can be achieved through collaboration, leadership, ideation, partnership, and education, among other mechanisms.

¹ HB 443, [Utah Inland Port Authority Amendments](#).

Sustainability is at the heart of all UIPA’s partnerships, programs, and policies in the inland port JA. However, HB 443 also notes an important limitation for UIPA: no land use or regulatory authority. Therefore, UIPA cannot regulate private development activities or mandate certain ways or requirements for firms operating within the JA. UIPA can, however, provide guidance, convene groups, leverage technology, and engage with the community and industry to create a national model for equitable, sustainable, and smart logistics.

What Is UIPA’s Sustainability Framework?

UIPA is committed to realizing its sustainable development potential through coordination with all relevant public and private stakeholders in the region. At a high level, the UIPA framework for sustainable development consists of green, resilient, and equitable themes:

- **Green:** carbon neutrality and net-zero emissions should be the aim of all development within the UIPA JA. Through the identification and preservation of ecological zones surrounding the JA, UIPA can encourage balanced development and pursue policies to avoid or minimize negative environmental and health impacts. GHG analyses and sustainable development targets will also guide UIPA’s business partnerships as the port looks for developers that are willing to implement emissions reduction technologies.

Indicators: Carbon Neutrality, Net Zero Emissions, Reduction in Criteria Air Pollutant Concentrations, Balanced Natural Resource Use

- **Resilient:** developments should be purpose-built and increase the capacity of the inland port area to withstand social, economic, supply chain, and environmental events. Limiting negative development impacts on the natural environment and local communities will be essential to long term success of the project area. Land use strategies, therefore, will encourage dense and diverse development that makes for an efficient port with minimal ecological impact.

Indicators: Impact Assessments, Hazard Mitigation

- **Equitable:** communities affected by inland port area developments should be intentionally consulted as part of planning processes to promote improved accessibility, economic opportunity, connectivity, health, safety, and quality of life. Development should aim to integrate the JA, the natural landscape, and local communities while creating the necessary environmental buffers. Creation of open spaces, multi-use employment, and clustering development all play a role in UIPA’s efforts to meet this standard.

Indicators: Civic Participation, Environmental Justice



UIPA developed a set of sustainability strategies, identified technology and infrastructure needs, and considered potential funding opportunities and finance mechanisms. To arrive at recommended sustainability strategies that adhere to the green-resilient-equitable framework, the UIPA Sustainability Action Study (SAS) uses the following elements:

1. **Detailed assessment of existing land use conditions and development constraints** within the JA. This includes a review of existing local and regional planning information and an assessment of zoning, property ownership, developed and undeveloped parcels, transportation assets, regulatory issues, natural resources, and physical infrastructure.
2. **Engagement with local stakeholders** to gain a deeper understanding of the background and context for what was on the ground and in process. The consulting team conducted outreach interviews with several stakeholders to gain their perspectives as to how UIPA can contribute to both the economic development of the JA and the protection of the local and regional environment. These stakeholders ranged from local environmental organizations to state, regional, county, and local government agencies, elected officials, community members, and business representatives. Their insight contributed directly to the formation of the strategies presented in this document.

3. **Review of local planning documents** developed by local and state agencies to collect valuable context and ideas for UIPA’s sustainability strategies. In particular, the documents listed in Figure 2 address the issue of sustainable development within the UIPA JA.

FIGURE 2: KEY GUIDING DOCUMENTS FOR THE UIPA SUSTAINABILITY ACTION STUDY

Document Publishing Agency, Year Published	Overview
NWQ Master Plan Salt Lake City, 2016	Covers the entire JA as well as adjacent and nearby sensitive natural areas. Strategies for this project, where relevant, align with and/or build upon content in the master plan.
Correctional Facility Site Assessment Report State of Utah/Audubon, 2016	Provides an assessment of the NWQ prior to the construction of the new state prison in the JA. This report highlights natural resource, habitat, and wildlife challenges posed by development in the area and offers ideas for how to avoid or mitigate negative impacts.
Climate Positive 2040 Salt Lake City, 2017	Highlights transformational changes needed for SLC to reach long-term climate goals. This plan represents a holistic approach for SLC government, businesses, and households to reduce carbon pollution and build resiliency to impacts and vulnerabilities in a warming world.
West General Plan Salt Lake County, 2022	Establishes a vision and its associated strategies and goals for the development of communities across Salt Lake County.
Strategic Business Plan Utah Inland Port Authority, 2022	Outlines some of the development impacts in the UIPA JA related to the natural environment. Further, it encourages careful planning to avoid the creation of new negative impacts and minimize and mitigate any impacts that cannot be avoided and offers high-level approaches for both.

Informed by the above elements, the SAS’s sustainability strategies are established based on the following key assessments:

1. **Carrying capacity assessment** of the built and natural environment’s ability to accommodate development. Most of the JA, particularly the developable portion, is zoned for industrial or commercial use. However, there are challenges associated with developing parts of the JA due to natural wildlife habitat, stormwater management, water and energy consumption, and other concerns. The carrying capacity assessment in this SAS provides UIPA with a compilation of challenges the sustainability strategies should address and guides the development of those strategies.
2. **Zero-emission technology assessment** to provide UIPA with options and associated costs and benefits of implementing new and emerging zero- and near zero- emission vehicle and equipment technologies. As freight activity is expected to increase with continued development, UIPA has the opportunity to facilitate sustainable logistics that benefit businesses and communities near and around the JA. This assessment guides UIPA’s decisions regarding investments in cutting-edge technologies that reduce emissions and contribute to air quality and energy efficiency improvements.

The remainder of this report will describe the existing conditions and carrying capacity analysis in detail and provide a set of recommended strategies to guide sustainable development throughout the UIPA’s JA. Additional information and analysis results can be found in the Sustainable Toolkit.



What Are the Existing Conditions and Key Carrying Capacities in the UIPA Jurisdictional Area?

Air Quality & Energy

The Wasatch Front area is in nonattainment for fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller (PM_{2.5}), sulfur dioxide, and ozone averaged over an 8-hour period,² meaning that the amount and rate by which these pollutants are released into the air is in excess of the maximum levels set in the National Primary or Secondary Ambient Air Quality Standard (NAAQS).³ Thus, Utah Department of Environmental Quality (UDEQ) has a State Implementation Plan for reducing emissions in order to achieve attainment.

The planned and ongoing developments inside the UIPA JA have the potential to increase overall emission levels unless the investments are directed towards net-zero emission goals. As transportation, particularly medium- and heavy-duty trucking, contributes the largest share of emissions, moving toward zero-emission (ZE) vehicles and reducing vehicle miles traveled are two key strategies to achieve these goals. The majority of air quality impacts from development within the JA are primarily associated with emissions related to truck and rail operations, as well as industrial equipment. Addressing emissions related to these sources that are necessary for the operations of companies located within the area will be central to contributing to improved air quality across the Wasatch Front.

It is critical that sustainability and air quality considerations be prioritized alongside trade and economic needs, in line with UIPA's sustainable development vision.

A key objective for UIPA is switching from conventional gasoline and diesel fuels to zero- and near-zero-emission (ZNZE) fuels in the medium- and heavy-duty vehicle sector. The UIPA will need to utilize a diverse set of available alternative fuels and technology options to meet the needs and scale of potential future transportation operations in the area. Currently, the most viable ZNZE fuels for medium and heavy-duty trucks include renewable diesel, renewable natural gas, electricity, and hydrogen, each with varying costs and providing varying levels of emission reduction benefits.

Analyzing data on truck movements in and around the Wasatch Front is useful in understanding several key items regarding the current vehicle operations in the JA, including where trucks drive to and from, how many trucks drive to, from, and within the JA, and the share of trucks which are light-, medium-, and heavy-duty. The Project Team combined sample truck GPS data analysis conducted in 2019 as part of the UIPA Initial Strategic Business Plan with county-level truck trip forecasts from the Wasatch Front Regional Council's (WFRC) Travel Demand Model (TDM) and the statewide TDM to estimate the number of annual truck trips in the UIPA JA (Figure 3).⁴

² EPA, Green Book, Current Nonattainment Counties for All Criteria Pollutants, accessed 2022: <https://www3.epa.gov/airquality/greenbook/ancl.html>

³ NAAQS Website, [Criteria Air Pollutants](#), 2022.

⁴ Wasatch Front Regional Council, Models and Forecasting – travel and Land Use Model Integration, accessed 2022.

FIGURE 3: 2019 ANNUAL TRUCK TRIPS TO, FROM, AND WITHIN THE UIPA JURISDICTIONAL AREA

Annual Truck Trips Originating from UIPA	
Traveling From UIPA To:	2019 Annual Truck Trips
Box Elder County	200 (Estimated)*
Weber County	51
Davis County	1,396
Salt Lake County	14,326
Utah County	235
Out of State	70 (To and from UIPA)**
Annual Truck Trips Destined for UIPA	
Traveling To UIPA From:	2019 Annual Truck Trips
Box Elder County	350 (Estimated)*
Weber County	158
Davis County	1,888
Salt Lake County	14,289
Utah County	308
Out of State	Reflected in the Out of State row above
Annual Truck Trips Internal to the UIPA JA	
UIPA Internal	1,733

Source: Wasatch Front Regional Council Travel Demand Model for in-state trips; Utah Statewide Travel Model for out-of-state trips, 2022.

*Box Elder County is relatively new to the WFRC Travel Demand Model so the precision of modeled estimates may be lower than other counties. Therefore, the number of truck trips in this row are estimated based on the project team’s knowledge of Box Elder County’s manufacturing and logistics facilities.

**Note: The relatively low number of out-of-state truck trips is based on estimations from WFRC and their assumptions.

When examined by route length category,⁵ the vast majority of truck trips to, from, and within the JA are relatively short; about 98 percent of all 2019 truck trips are estimated to have occurred to and from Davis County, Salt Lake County, and within the JA itself. This has the potential to change as a result of increased industrial activity from the development of the UIPA JA. While an exact percent change cannot be stated with certainty, Oak Ridge National Laboratory’s Freight Analysis Framework 5 data on truck flows suggests that 70 percent of all 2050 truck trips may be short length (0 to 100 miles) and roughly 22 percent may be long length (251 miles and above). Since the vast majority of truck trips are short haul, they are well-positioned for alternative fuels like electrification.

The potential for transitioning the commercial fleet operating in the UIPA JA has implications for the type and scale of charging and fueling infrastructure that may be needed to meet future demands. To provide UIPA with a sense of the potential energy, power, and infrastructure needs to support future ZE vehicle deployments, the project team developed three ZE vehicle deployment scenarios and used them to estimate battery electric vehicle charging supply equipment (EVSE) and hydrogen fuel-cell electric (FCE) vehicle fueling infrastructure needs and associated costs. The truck origin-destination data presented in the above tables informed the creation of low, medium, and high scenarios for ZE vehicle deployments.

This section provides the summary results scenario assessment. The Sustainable Toolkit provides more detail on ZE vehicle technology options, costs, charging and fueling needs, and adoption scenarios. The ZE vehicle deployment scenarios result in the following key takeaways regarding charging and refueling infrastructure needs:

Low EV Deployment Scenario

- Assuming low deployment levels, approximately 14 dual-port electric vehicle (EV) chargers may be required to service medium- and heavy-duty electric trucks in need of semi-public charging infrastructure by 2050.

⁵ Analysis conducted based on Wasatch Front Regional Council Travel Demand Model and the Utah Statewide Travel Model, 2022.

- Needed charger power levels are estimated to range from 28 kilowatt (kW) to 71 kW (14 kW to 36 kW per plug), depending on the route length category.
- The estimated total charging power required for semi-public charging infrastructure ranges from 394 kW to 671 kW, depending on whether trucks are assumed to make one or two roundtrips per day.
- For the longest in-state routes and all out-of-state routes, fueling needs for hydrogen fuel cell electric trucks are estimated to range as low as 200 kilograms of hydrogen (kgH₂) per day and as high as 6,000 kgH₂ per day, depending on how many FCE trucks refuel on a given day, which is currently uncertain.
- The estimated EVSE hardware costs can range from \$280,000 to \$530,000 depending on the power output ranges and number of EVSEs required.
- The estimated EVSE installation costs can range from \$270,000 to \$294,000 depending on the power output ranges and number of EVSEs required.

Medium EV Deployment Scenario

- Approximately 25 dual-port EV chargers may be required to service medium and heavy-duty electric trucks in need of semi-public charging infrastructure by 2050.
- Needed charger power levels are estimated to range from 28 kW to 141 kW (14 kW to 71 kW per plug), depending on the route length category.
- The estimated total charging power required for semi-public charging infrastructure is estimated to range from 759 kW to 1.3 megawatts (MW), depending on whether trucks are assumed to make one or two roundtrips per day.
- For the longest in-state routes and all out-of-state routes, fueling needs for FCE trucks are estimated to range as low as 260 kgH₂ per day and as high as 8,900 kgH₂ per day, depending on how many FCE trucks refuel on a given day, which is currently uncertain.
- The estimated EVSE hardware costs can range from \$550,000 to \$995,000 depending on the power output ranges and number of EVSEs required.
- The estimated EVSE installation costs can range from \$525,000 to \$534,000 depending on the power output ranges and number of EVSEs required.

High EV Deployment Scenario

- Based on the assumptions of the High deployment scenario, approximately 42 dual-port EV chargers may be required to service medium and heavy-duty electric trucks in need of semi-public charging infrastructure by 2050.
- Needed charger power levels are estimated to range from 28 kW to 118 kW (14 kW to 59 kW per plug), depending on the route length category.
- The estimated total charging power required for semi-public charging infrastructure is estimated to range from 1.3 MW to 2.2 MW, depending on whether trucks are assumed to make one or two roundtrips per day.
- For the longest in-state routes and all out-of-state routes, fueling needs for FCE trucks are estimated to range as low as 325 kgH₂ per day and as high as 11,900 kgH₂ per day, depending on how many FCE trucks refuel on a given day, which is currently uncertain.
- The estimated EVSE hardware costs can range from \$935,000 to \$1,710,000 depending on the power output ranges and number of EVSEs required.
- The estimated EVSE installation costs can range from \$912,000 to \$921,000 depending on the power output ranges and number of EVSEs required.

As the above summary bullets show, the costs associated with battery-electric vehicle charging infrastructure can vary widely depending on a number of factors, including the size and scale of the infrastructure, site-level make-ready infrastructure upgrade needs, and electric utility distribution grid upgrade needs.

For FCE trucks completing the longest routes, Figure 4 shows a summary of estimated costs to build hydrogen fueling stations based on the assumptions per the Low, Medium, and High deployment scenarios. Total hydrogen fueling station costs are estimated to range from roughly \$2.5 million to \$2.8 million. Importantly, however, these cost estimates are based on existing stations with relatively low daily throughput (180 through 350 kgH₂/day).

The size of hydrogen fueling stations depends on the future FCE trucks operating to, from, and within the UIPA JA, which is somewhat uncertain because the number of trucks estimated to require fueling on any given day is not certain. Based on the analysis presented above, between 5,800 kgH2 and 11,600 kgH2 would be the estimated annual hydrogen fueling needs. If out-of-state truck trips completed by hydrogen FCE trucks are seasonal, then larger fueling stations may be required, as that would entail a larger number of trucks refueling on any given day.

UIPA developed costs of larger hydrogen fueling stations based on data from the US Department of Energy (DOE). The data indicates that capital equipment cost estimates for new fueling stations developed in California varied between \$1,200 and \$3,000 per kgH2 dispensed per day in 2016 dollars.

FIGURE 4: SUMMARY OF HYDROGEN FUELING INFRASTRUCTURE COST ESTIMATES BY DEPLOYMENT SCENARIO

Low Deployment Scenario				
Route Length Type	Est. Daily Fuel Throughput (kgH2)	Reference Station Throughput and Source	Est. Station Equipment costs	Est. Station Installation Costs
High-FCE (Combined In-State and Out-of-State Trips)	194	180 (California Energy Commission)*	\$1,750,000	\$800,000
Medium Deployment Scenario				
Route Length Type	Est. Daily Fuel Throughput (kgH2)	Reference Station Throughput and Source	Est. Station Equipment costs	Est. Station Installation Costs
High-FCE (Combined In-State and Out-of-State Trips)	259	350 (California Energy Commission)**	\$1,900,000	\$900,000
High Deployment Scenario				
Route Length Type	Est. Daily Fuel Throughput (kgH2)	Reference Station Throughput and Source	Est. Station Equipment costs	Est. Station Installation Costs
High-FCE (Combined In-State and Out-of-State Trips)	323	350 (California Energy Commission)	\$1,900,000	\$900,000

Source: ICF Analysis, [CEC Station Cost Estimates](#) and [Hydrogen Energy.Gov](#); *Reference station is a gaseous delivery station providing 180 kg of H2 per day; **Reference station is a liquid delivery station providing 180 kg of H2 per day.

The varying results across scenarios underscore how charging infrastructure needs and associated costs may change as truck operating conditions change at the UIPA JA.

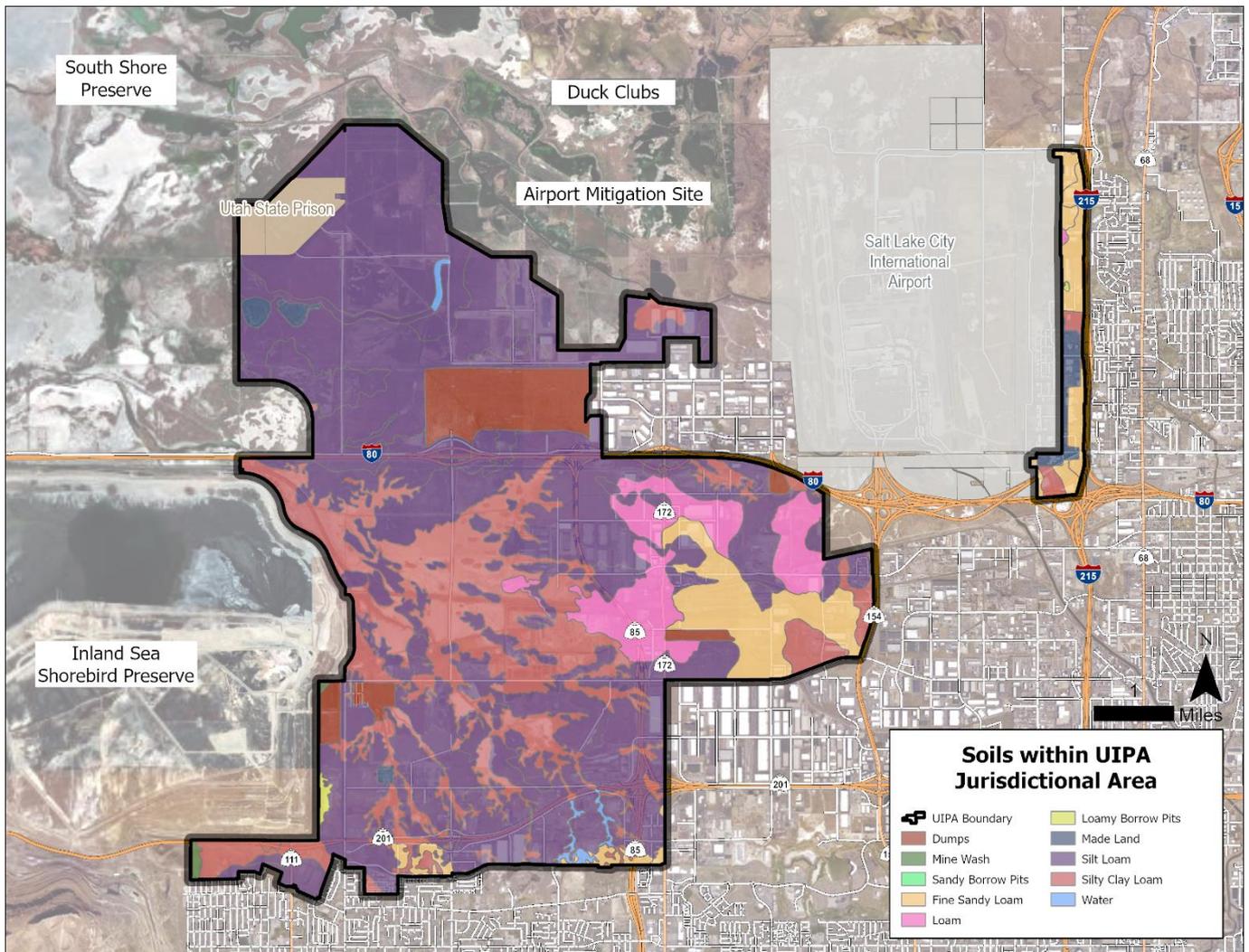
Importantly, the projected number of out-of-state truck trips to and from the UIPA JA, as reported in the Utah Statewide Travel Model, are low projections. As the area develops, increased truck traffic is expected, and the projected 177 annual truck trips by 2050 may be an underestimate. The Sustainable Toolkit provides more detail on the results of alternative data analysis.

Natural Areas and Stormwater Management System

The UIPA JA's soil type provides poor natural drainage. Moreover, the depth to groundwater based on this soil type is generally 4 feet or less, which means that stormwater infiltration potential is low to infeasible. As a result, stormwater management is a critical factor in the development of new facilities or maintenance of the existing ones across the UIPA JA. The site's poor natural drainage results in temporary standing water, wetlands, and playas (Figure 5 and Figure 6). Wetland areas remain even with artificial drainage like channels, ditches, and drains constructed for agriculture.

Utah is the Nation's second driest state and has experienced extreme and exception drought conditions for multiple years.⁶ Therefore, incentivizing low water using businesses to locate or expand to the jurisdictional area and encouraging water conservation practices as well as water usage reporting among businesses in the area is crucial for the preservation of limited water resources and replenishment of the Great Salt Lake.

FIGURE 5: SOIL TYPES WITHIN THE UIPA JURISDICTIONAL AREA

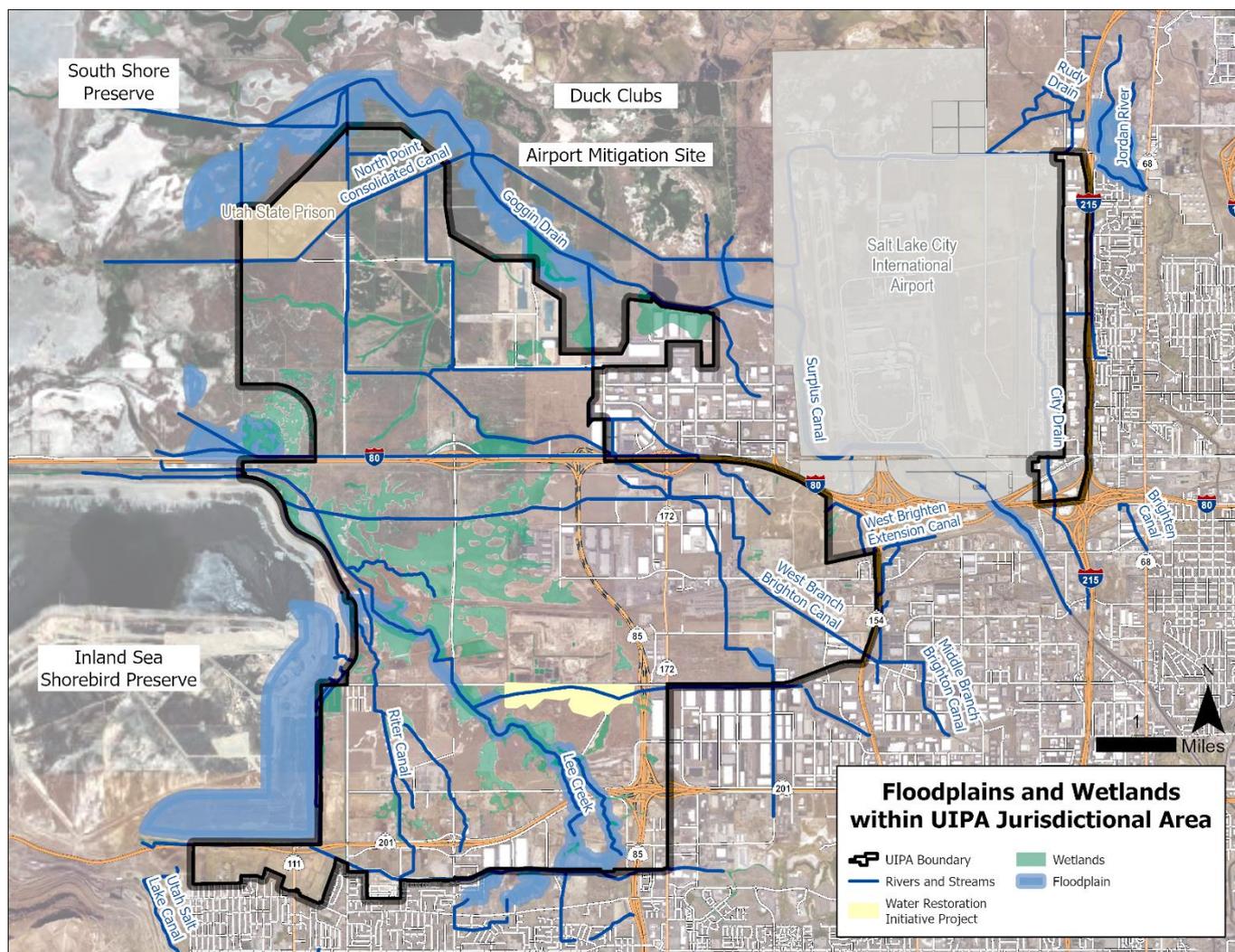


In addition to wetlands, other important natural areas exist in the JA, including environmentally sensitive lands such as bird nesting areas and wildlife habitats. The Lee Kay Wildlife Conservation Area, owned and managed by the Utah Division of Wildlife Resources (UDWR), is home to many species of birds. The Great Salt Lake, located to the north and west, is considered one of North America's most important interior natural resources and habitats for migratory birds. The nearby Inland Sea Shorebird Reserve, South Shore Preserve, Gillmor Sanctuary, and Salt Lake City Airport Wetland Mitigation Site are other important natural resources. While there are no related constraints for developing the vacant land within the JA outside of a 400-foot-wide

⁶ Utah Department of Natural Resources Drought Update, October 7, 2022: <https://naturalresources.utah.gov/wp-content/uploads/DroughtUpdate100722.pdf>

eco-industrial buffer (displayed on Figure 11), development, particularly in the northwestern portion of the JA, has the potential to significantly impact wildlife, water resources, and natural habitats in nearby areas. Therefore, any development within the JA must account for nearby natural resources, and apply LID practices, so that negative impacts from development can be avoided or, at a minimum, mitigated.

FIGURE 6: FLOODPLAINS AND WETLANDS WITHIN THE UIPA JURISDICTIONAL AREA



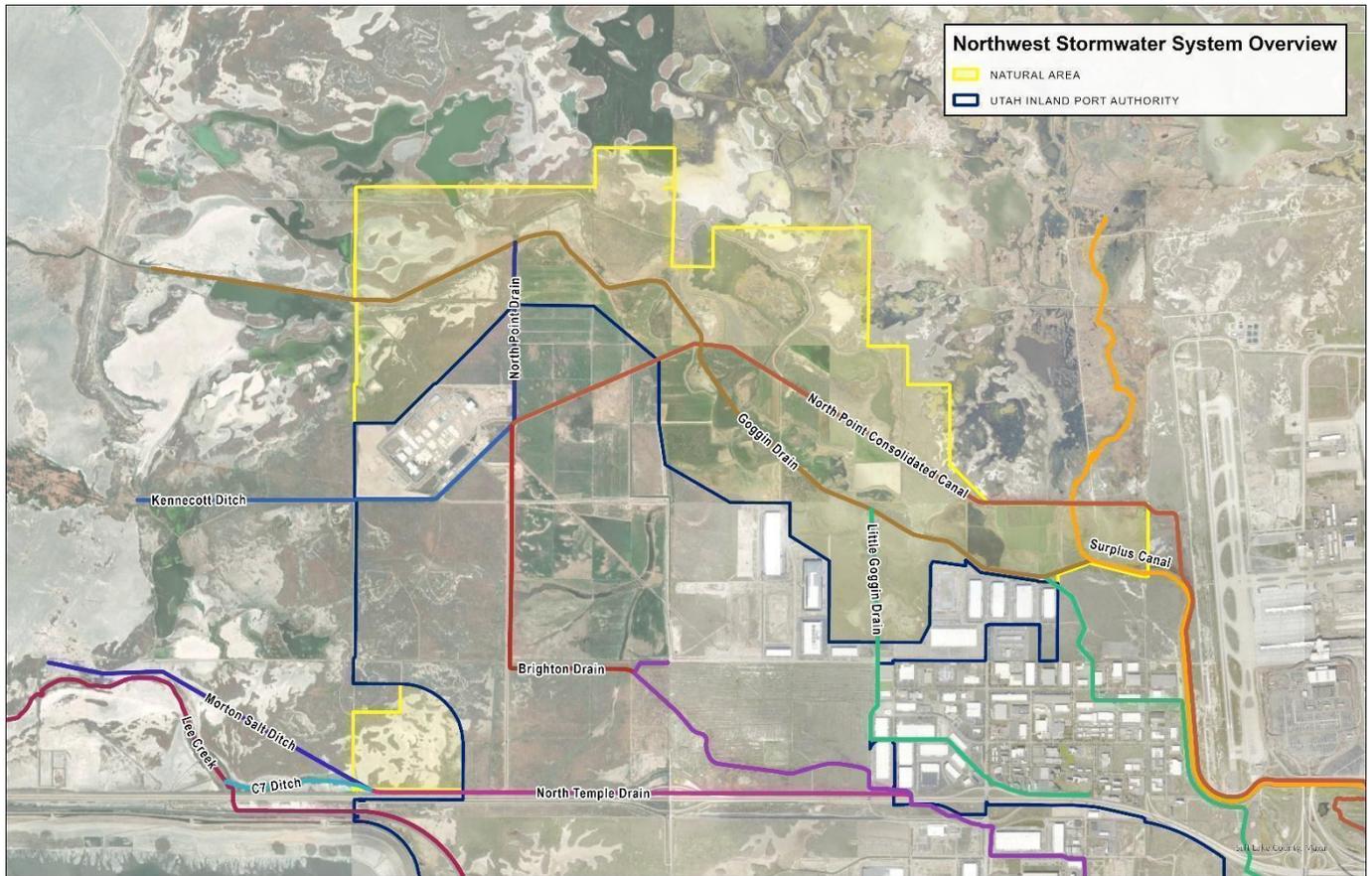
Open Space Corridors

The Salt Lake City Open Space Lands Program, established in 2003, identified parcels of undeveloped land for acquisition and uses, such as nature preserves, pedestrian and bike trail corridors, geologically sensitive areas, native plant communities, and habitat conservation areas. As part of the program, trail corridors were identified to connect the local communities with the existing park systems.

Source: Salt Lake City Open Space Acquisition Strategy, 2010.

Figure 7 presents the components of the existing stormwater management system in the NWQ area. As shown, the area has a system of agricultural ditches and canals, as well as several drains that can direct current levels of stormwater runoff. Overall, the challenge for stormwater in the area is building a system that effectively moves and treats water prior to reaching the Goggin Drain (water is delivered to the Goggin via the Surplus Canal), which feeds directly into the Great Salt Lake. Although Goggin Drain has capacity to accept stormwater, it does not dictate any specific maximum for the amount of land that can be covered by new buildings. A portion of each new development site would need to be reserved for stormwater flow control unless a direct discharge system to the Goggin Drain or the Great Salt Lake can be developed. Other direct receiving water would also need flow control, which includes all the land south of Interstate 80 (I-80) and much of the southern portion of the JA below the Jordan River meander water feature.

FIGURE 7: NORTHWEST QUADRANT STORMWATER SYSTEM OVERVIEW



In addition, the entire JA, including discharges to the Goggin Drain, is required to provide stormwater quality control measures per the Salt Lake County Stormwater Management Plan,⁷ including filtration swales, wet ponds, settling basins, constructed wetlands, and media filtration. All such options would require varying levels of land area and cost. Wetland buffers may be needed, and there may be limitations to providing stormwater facilities in these buffers. Source tracing may be considered if existing uncontrolled stormwater in the UIPA JA is expected to contribute to low-quality runoff, the findings of which can lead to proposed stormwater retrofitting projects for existing developed areas in the JA.

The JA also has drainage limitations due to its flat topography and poorly defined natural drainage systems. Thus, the area's drainage system will likely require a higher-than-normal land area. Although drainage ditches have been designed in some areas to provide additional drainage, these systems are mostly informal and not designed to meet specific levels of service for drainage or flood protection. In addition, the distances between drainage sites and natural drainage systems are long, requiring a relatively large system footprint to convey water from flat land and low-lying areas. Conducting a Stormwater and Drainage Master Plan is critical to further investigate these challenges and establish recommendations. The Stormwater and Drainage Master Plan needs to define, plan, reserve, and construct drainage infrastructure to provide positive site drainage and to inform individual on-site connections and stormwater control measures. The Stormwater and Drainage Master Plan will be informed by the Northwest Quadrant Storm Water Master Plan that is currently under development by Jacobs in collaboration with non-governmental profit environmental organizations, the UIPA, Salt Lake City Department of Public Utilities (SLCDPU), and other developers in the area north of I-80, commonly known as the NWQ, which includes lands in the UIPA JA.

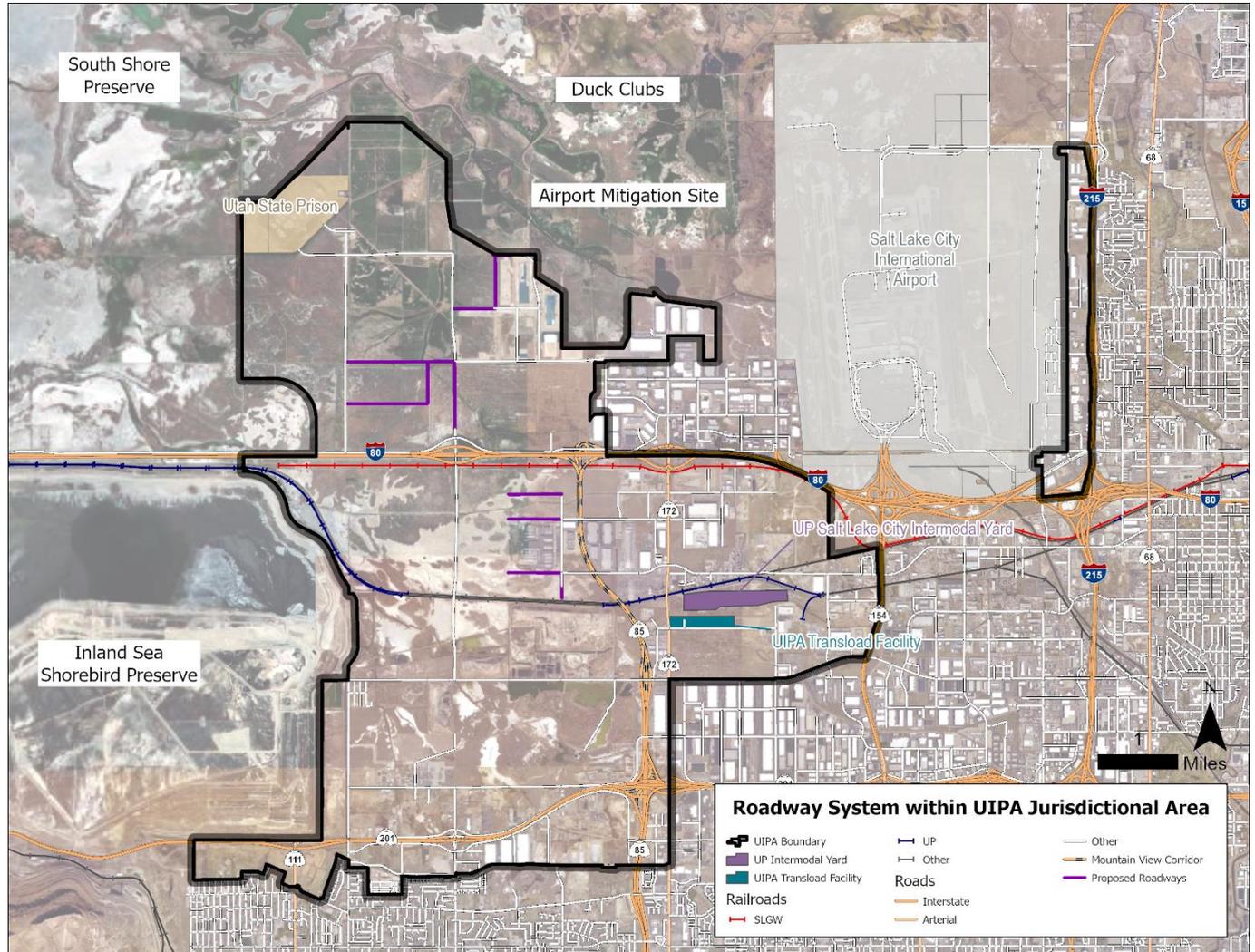
⁷ [Salt Lake County Stormwater Management Plan](#), 2020.

Transportation System

The UIPA JA is uniquely positioned at the intersection of two interstate freeways, close to an international airport and one of the nation’s most heavily trafficked Class I rail lines (Figure 8).

The accessibility and connectivity offered by this robust multimodal transportation system makes the UIPA JA an attractive location for development, including freight-focused development, in sectors that rely heavily on transportation.

FIGURE 8: EXISTING TRANSPORTATION SYSTEM WITHIN THE UIPA JURISDICTIONAL AREA



Source: Parametrix, 2022.

The following summarizes the elements of the transportation system in the UIPA JA:

Road: The UIPA JA is connected to Utah and US markets by Interstate highway corridors (I-80 and I-15) and Utah State Routes (SR 201 and SR 172). There is an existing, well-developed arterial and street network to the east and south of the JA, but few routes, such as 5600 W and California Road, connect through the area. Additional internal arterials and connections are needed. The development of much of the JA is predicated on developing an effective local road network.

Rail: Union Pacific (UP) and the Salt Lake Garfield & Western (SLGW) short line and switching railroad both serve the JA. UP is the dominant rail provider in Utah due to its extensive infrastructure in the state. UP has a mainline that bisects the UIPA JA, running east-west. UP’s Salt Lake City Intermodal Terminal, one of the railroad’s largest facilities, with a capacity of 250,000 twenty-foot equivalent units (TEUs) per year, lies within the area. The SLGW currently serves the International Center north of I-80. Its spurs cross the interstate to serve users, while a large yard provides car storage south of the interstate.

Air: SLC International Airport is situated northeast of the UIPA area. The Airport is the 21st busiest in North America, handling more than 370 flights daily. Cargo handling operations are clustered at the north end of the Airport's campus. In 2021, SLC Airport handled over 412 million pounds of cargo. According to the Federal Aviation Administration, SLC ranked 27th nationally in terms of landed cargo weight in 2020.

Transit and Active Transportation: Currently, there is limited transit service in the UIPA JA as much of the area is still developing. However, as development occurs and road infrastructure is constructed, there will be an opportunity for transit services inside the area. There are very few existing developed trails in the UIPA JA. However, the Northwest Quadrant Master Plan identifies an existing off-street shared-use trail along West North Temple and Lee Kay Wildlife Conservation Center to the SLC Airport, as well as trails planned for Utah Department of Transportation's (UDOT's) Mountain View Corridor project. The Northwest Quadrant Master Plan also recommends adding bike lanes on 7200 West and other north/south roads and improving the bike route along the I-80 frontage road between the SLC Airport and the Saltair Resort by the Great Salt Lake.⁸ The Salt Lake City Pedestrian & Bicycle Master Plan also identifies recommended plans for improving the bicycle network in the SLC area, including adding bike lanes on 7200 W as mentioned earlier, a diagonal path through the SITLA site, and new multi-use paths in the UIPA JA in the next 10-20 years.⁹

Pipeline: Two main pipelines (Figure 9) run through the UIPA JA carrying natural gas, crude oil, and refined petroleum products. There are no pipeline terminals within the UIPA JA, nor are there pipeline expansion projects currently planned for the area. However, UIPA stakeholders have highlighted the need for new pipelines to reach individual parcels, including for the transmission of natural gas released as a by-product of landfill remediation operations.

⁸ Northwest Quadrant Master Plan, Salt Lake City Government, August 2016.

<http://www.slcdocs.com/Planning/Projects/NorthwestQ/NWQ.pdf>

⁹ Salt Lake City, Salt Lake City Pedestrian & Bicycle Master Plan, 2015. [SLC_PBMPCompleteDocument\(Dec2015\)Clickable.pdf \(slcdocs.com\)](#)

FIGURE 9: PIPELINE SYSTEM IN THE UIPA JURISDICTIONAL AREA

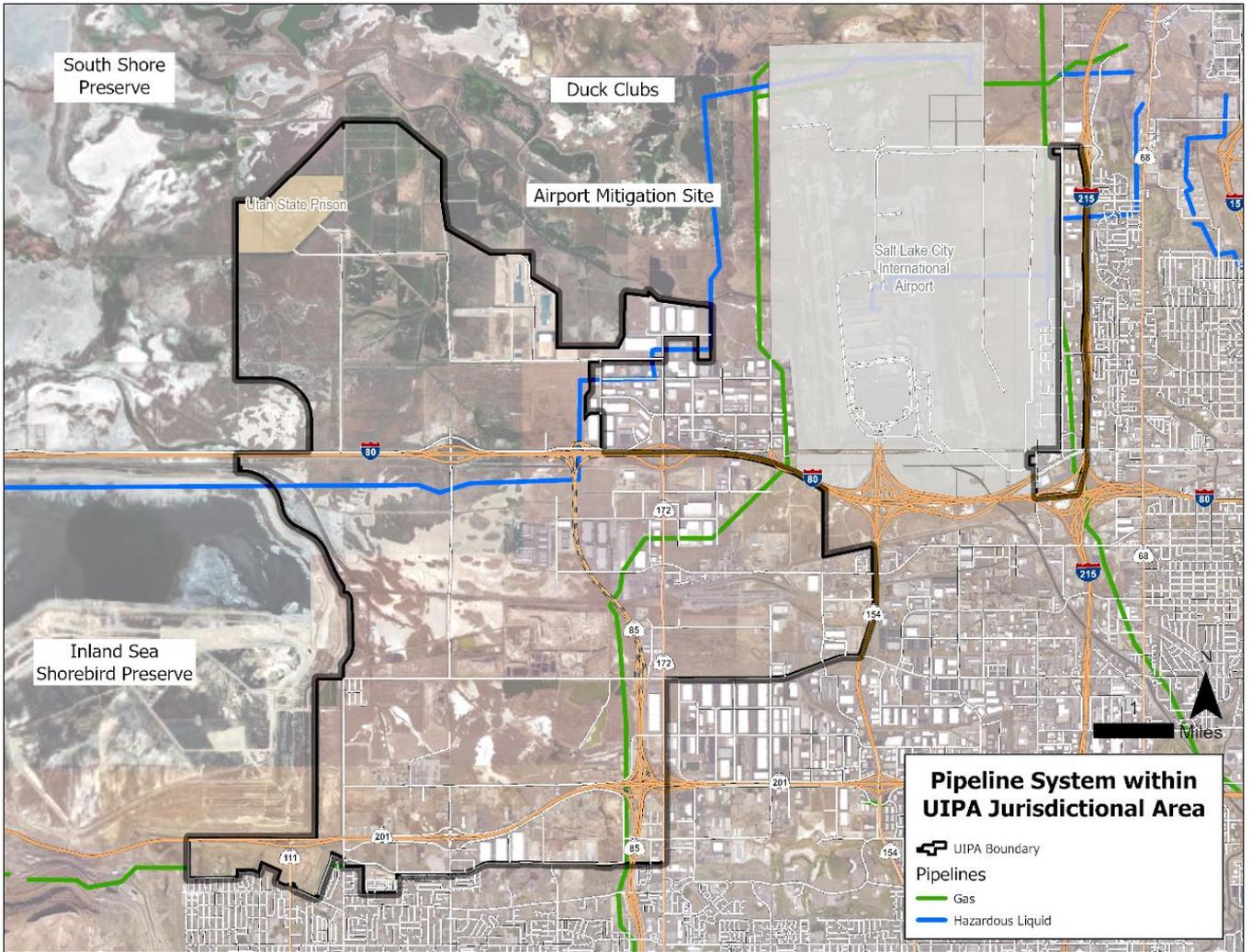


FIGURE 10: ONGOING OR PLANNED TRANSPORTATION PROJECTS

Mode	Name	Description
Road	Mountainview Corridor Future Expansions	The Utah Department of Transportation (UDOT) is currently constructing the Mountainview Corridor, a freeway that will eventually connect I-80 with SR-73 in Utah County. The Mountainview Corridor will allow commuters and truckers alike to bypass I-15 by finding a more efficient route along the western portion of the valley. A portion of the project remains unfunded (from 1300 S./California Avenue to I-80) and proposes an interchange without direct access to the portion of UIPA north of I-80 where the most significant developments will likely occur. UDOT may be willing to shift the interchange further west to address this issue.
Road, Bike, and Pedestrian	7200 West (SR-201 to 700 North)	7200 West is a local road construction project that would offer access to the Utah State Prison site. Upgrades on this road are critical to support development. Salt Lake County conducted a study on the extension of 7200 W. from UT-201 to 700 N, which recommends the construction/expansion of the road to 3-lanes to accommodate freight movement and employee commutes (transit and POVs). The study also calls for a 12-foot-wide multi-use path providing connectivity to regional bike routes.
Rail	UP and SLGW Planned Infrastructure	UP plans significant expansions to its Intermodal Terminal in the UIPA JA. It intends to expand its intermodal ramp, which should help with efficiency and volume. UP will also be adding 400 parking stalls on the current footprint on the north side of the intermodal terminal. The railway has purchased property across 5600 W. to facilitate this expansion. UP can potentially open the west side switching capacity, which would bring container life capacity up to 400,000 a year (almost a 50% increase). Moreover, the SLGW short-line railroad plans to construct a new interchange west of UP’s intermodal terminal. This interchange will be able to facilitate 130 railcars’ length. It will also make interchanges more efficient for inbound UP coming from the west.
Air	Salt Lake City Airport Renovations	The airport is performing major renovations, with a \$4.5 billion project to replace existing concourses with two linear concourses. The first phase of this project opened in 2020, and it is expected to be completed in 2024.
Bike	New and Improved Bike Lanes	A number of local plans recommend adding or improving bike lanes and shared-use paths in the area. For example, the NWQ Master Plan and Salt Lake City Pedestrian & Bicycle Master Plan recommend bike lanes on 7200 West.

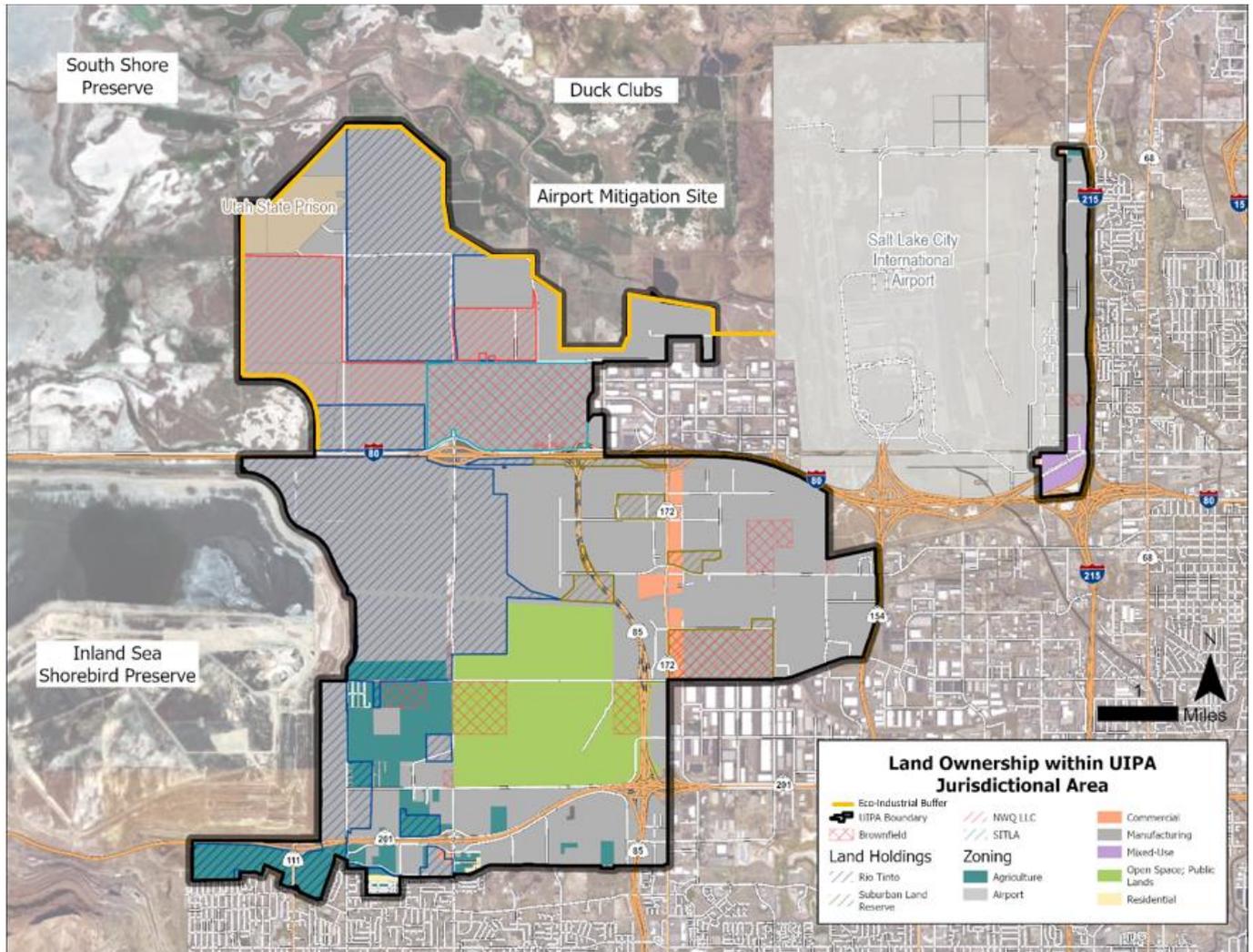
Source: Salt Lake County Planning and Transportation, 7200 West Study: Sr-201 To 700 North - Needs Assessment, Preliminary Design, and Cost Estimate, 2019, p. ii; [Union Pacific expands intermodal service between Denver, Salt Lake City, and Los Angeles](#), Newswire, Bill Stephens, June 2019; [Strategic Business Plan FY 2020-2024](#), UIPA, April 2020.

Land Use and Ownership

Of the UIPA JA's roughly 16,000 acres, approximately 31 percent is developed; 24 percent is dedicated non-developable open space, active landfill, eco-industrial buffer, or mining buffer; 7 percent is pending remediation; 5 percent is existing roads or railways; and another 7 percent is planned for development.

Additionally, as shown in Figure 11, the majority of land in the UIPA's JA (about 87%) is held by the private sector. The primary landowners are Rio Tinto-Kennecott, NWQ, LLC, School and Institutional Trust Lands Administration (SITLA), and Suburban Land Reserve. Also, the majority of land within the JA (approximately 81%) is zoned for industrial or commercial use, while the rest is zoned for agricultural, open space, residential, and mixed-use.

FIGURE 11: LAND OWNERSHIP WITHIN THE UIPA JURISDICTIONAL AREA



Source: Parametrix, 2022.

The following are major private landowners in the UIPA JA:

- **Rio Tinto-Kennecott** is the largest landowner in the UIPA JA, with almost all of its parcels on the area's western edge. Rio Tinto manages major mine tailing ponds adjacent to UIPA's western boundary, which may limit certain types of development. Rio Tinto-Kennecott also maintains a 500-acre mining buffer along 8000 West fronting I-80 to ensure compatible land uses. The Inland Sea Shorebird Reserve in the south and west of the UIPA JA was developed by Rio Tinto-Kennecott to mitigate the impacts of mine tailings expansions on the natural areas around Great Salt Lake.
- **NWQ, LLC** is a joint venture between Wadsworth Development Group, Colmena Group, and Stokes Partners to develop an approximately 1,500 acres of land known as the SLC Port Global Logistics

Center.¹⁰ NWQ, LLC is currently in Phase 1 of development and has planned Phase 2 and Phase 3 to have direct rail access.

- **SITLA** is a quasi-governmental agency responsible for the management of trust lands to generate revenue for 12 specific institutions. Its real estate development arm acquired a 770-acre site just north of I-80 called the North Temple Landfill, which was primarily used by SLC as a municipal solid waste landfill from the late 1950s through 1979. The site, which is located within the UIPA's JA, is currently under remediation and is planned to be developed for industrial use in several phases.

The UIPA JA is sited in an ecologically sensitive zone located between the Great Salt Lake and regionally important habitat areas including wetlands, wildlife preserves, and duck clubs. Therefore, industrial land development in the area should involve ecological principles aimed at restoration, preservation and management of important natural systems, and integration of human systems for mutual purpose and longevity.

UIPA's JA has the scale and flexibility to accommodate a diversity of land uses centered around industrial activities while not compromising the surrounding ecological systems. The following are key considerations for ensuring balanced land development:

- **Land use planning based on landscape ecology** work with natural patterns and interactions within an ecosystem or region. Landscapes are made up of areas of habitat and connective elements such as rivers, canals, and stretches of natural land located along critical features that maintain the integrity of the landscape's ecological health. Development activities need to consider these landscapes and avoid fragmenting ecological systems. In turn, healthy and functioning ecological systems can empower economic value; for instance, by strengthening tourism/recreation and agriculture sectors and providing efficiencies by adding diversity of vitality and support for maintenance over time.
- **Industrial land use planning with a focus on development is essential for a logistics port to function** while preserving the critical habitats and habitat linkages and limiting adverse impacts on the environment and communities' quality of life.
- **Human and landscape connectivity** must be designed to maintain linkages within the JA and outside of it. Transportation assets should be organized along coordinated corridors to consolidate and limit adverse effects by sensitively developing infrastructure such as overpasses, roads, and bridges that maintain habitat and water flow, and leveraging technology to help in moving people and goods efficiently and sustainably.

UIPA's schematic land use development framework is established based on the above considerations to inform master planning in the JA and help mitigate potential negative effects caused by development. The process for the creation of the land use development framework is summarized in Figure 12. In the first step, general areas of development and natural areas that would require preservation are identified. After which, ecological connections are taken into account to mitigate impacts of development on paths that allow for wildlife movement between preservation areas. Existing state and federal environmental protection regulations are also considered to identify areas in need of preservation or conservation. Finally, development guidelines are set based on proximity to preservation and conservation areas.

Development principles are an essential part of UIPA's sustainability framework, as they establish a platform for reducing technical barriers to coordinated development and promote voluntary use of sustainability strategies. These principles are established based on Low Impact Development (LID) practices. LID refers to the combination of land planning, site design, and construction practices that aim to conserve and protect natural resource systems while reducing infrastructure costs. The resulting schematic sustainable land use development framework focuses on patches of habitat connected by corridors of water or native vegetation as

¹⁰ SLC Port Global Logistics Center: <https://images1.loopnet.com/d2/yEDFhXRqfpBZSv5pbrK07bgLge-Pnrk5YD1--rPeuo0/document.pdf>

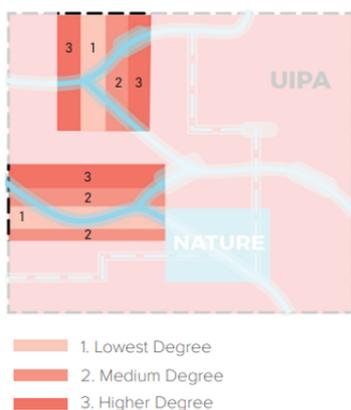
high-value areas to protect. Additionally, SLC created a Riparian Corridor Overlay¹¹ to address development along city streams. This can be used to guide development in the JA.

Figure 13 highlights a framework for applying low to medium degrees of LID within the UIPA JA that would guide sustainable development and provide recommendations for land conservation and development activities. This framework informs future transportation investment decisions in coordination with land use considerations.

FIGURE 12: SUSTAINABLE LAND USE DEVELOPMENT FRAMEWORK PROCESS



FIGURE 13: SCHEMATIC SUSTAINABLE LAND USE DEVELOPMENT FRAMEWORK FOR THE UIPA JURISDICTIONAL AREA



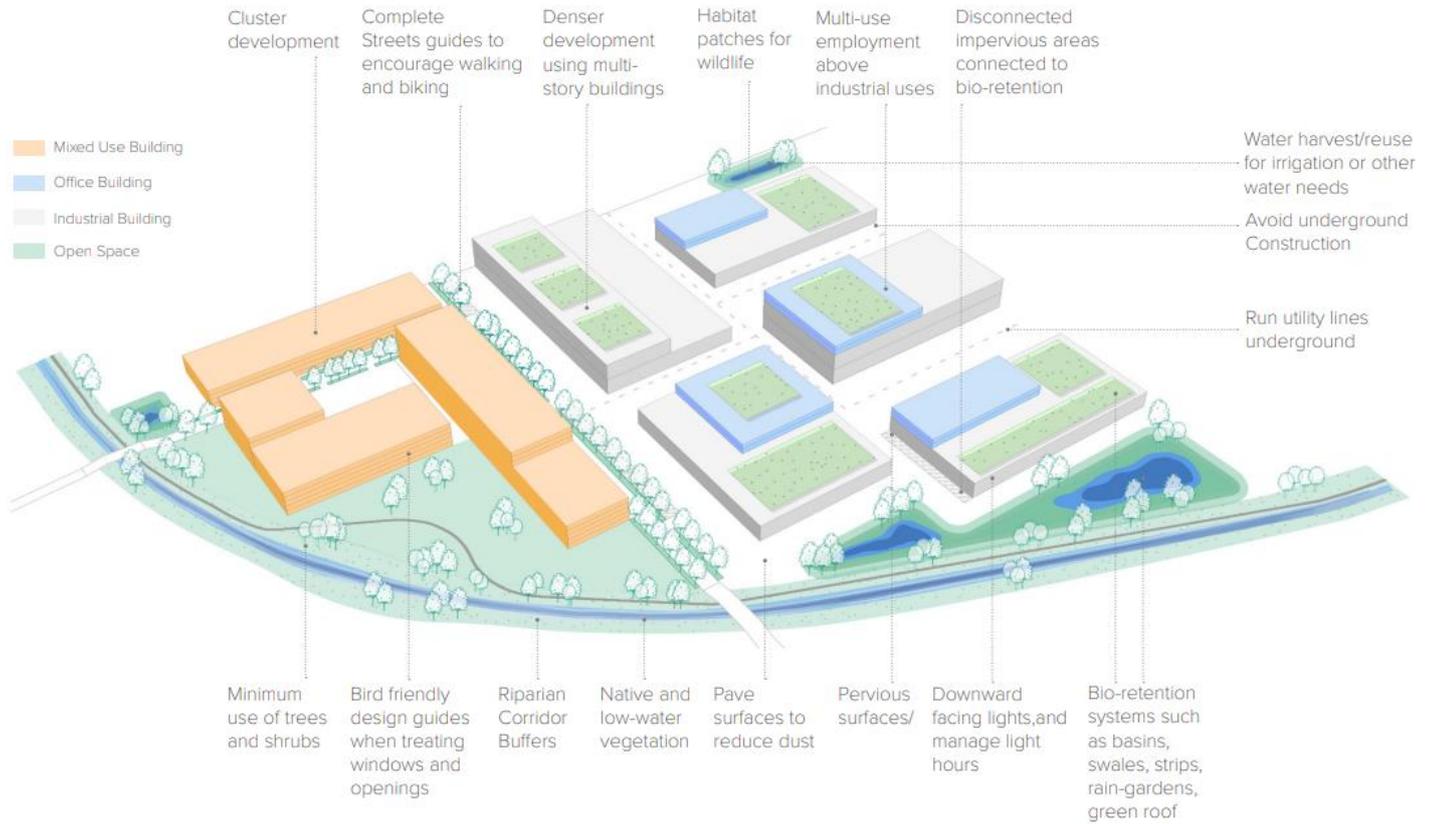
Land Type	Conserve / Develop Strategy	Use / Function
Ecologically Sensitive Zones	Create a gradient of categories of development. Define development guidelines for each category that integrates both ecological and port development goals. All development includes guidelines based on LID, smart growth, density and land coverage requirements. Categories: 1: Low degree 2: Medium degree 3: High degree	Port development fits into the gradient zones defined by impact to ecology; and land use needs. Category 1: Low to no impact development including trails, recreational open space and development (docks, boardwalks, restrooms), low LID limited lot coverage and low density. Category 2: Middle to low impact, traffic and density, medium LID and lot coverage. Category 3: High impact, traffic and density, standard LID and lot coverage.

Source: WSP analysis, 2022.

¹¹ A riparian corridor is a unique plan community along or near bodies of water such as lakes, lagoons, rivers, canals, etc. Source: Salt Lake City Codes of Ordinance, [Chapter 21a.34 Overlay Districts](#), accessed July 2022.

Figure 14 provides sustainable site development guidelines for an undeveloped parcel within the UIPA JA that borders ecologically sensitive natural land. The Sustainable Toolkit provides additional details on LID, and other sustainable site development approaches.

FIGURE 14: SUSTAINABLE SITE DEVELOPMENT GUIDELINES



Source: WSP analysis, 2022.

Landfills and Brownfields in the UIPA Jurisdictional Area

Some of the land that is or can become available for industrial development in the UIPA area is categorized as landfill or brownfield. A landfill is a site used (currently or in the past) for the disposal of waste material. Closed landfills may qualify as brownfield sites, which are defined as real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in brownfield properties protects the environment, reduces contamination, and takes development pressures off natural areas and open space. The following presents the landfills and brownfields located within the JA:

The North Temple Landfill is a closed landfill that covers approximately 790 acres and is located at approximately 7200 West and I-80. Currently, the SITLA and Ninigret Group LLC are implementing a Remedial Action Plan under the Utah Voluntary Cleanup Program (VCP), which is intended to encourage the redevelopment of brownfields and other impacted sites by providing a streamlined cleanup program.

The Cannon Pioneer Landfill, located at approximately 4800 West and California Avenue, is a closed landfill that covers approximately 299 acres and stopped operation in 1975. It was listed in SLC's Northwest Quadrant Master Plan as a site that should be considered for remediation. The Cannon Pioneer Landfill is currently in an active site characterization phase under the Utah VCP.

The Salt Lake Valley Landfill, located at approximately 6000 West and California Avenue, is an active landfill that covers about 537 acres and has been in operation since 1979. The landfill has to reach capacity and is expected to continue operating. Current environmental regulations governing landfill operations mean it is easier and less expensive to expand an existing landfill than to open a new landfill. As a result, the current landfill operations may be expanded to facilitate the need for additional waste disposal capacity.

The Mountain View Landfill, located at approximately 7000 West and California Avenue, is an active landfill that covers approximately 77 acres and accepts non-hazardous construction/demolition waste and regulated asbestos-containing material.

The Construction Waste Landfill, located at approximately 7200 West and California Avenue, is an active landfill that covers approximately 70 acres and accepts non-hazardous construction/demolition waste and household waste resulting from abatement, rehabilitation, renovation, and remodeling of homes and other residences.

Provisions within the Inflation Reduction Act, passed by the US Congress in August 2022, provide additional production and investment tax credits for renewable energy projects developed on or near brownfield sites. The US Treasury Department is expected to release further guidance on how to interpret these provisions.

Sources: Utah Government, Utah Environmental Interactive Map, (n.d.); Salt Lake City, NWQ Master Plan, 2016.



What Strategies Can Guide Sustainable Development in the UIPA Jurisdictional Area?

UIPA's duty to encourage sustainable development in project areas is an important aspect of fulfilling its mission.

The following sustainability strategies are designed to help UIPA and its partners and stakeholders address concerns related to the potential future impacts of development on air quality, water resources, natural resources, the transportation system, and land use within the jurisdictional area.

FIGURE 15: SUSTAINABILITY STRATEGIES



The SLC area is experiencing the impacts of rapid growth. Vacant land is being developed as more people and businesses move into the region, attracted by its quality of life and economic potential. This can be seen in UIPA’s JA in terms of increased development activity and growing freight volumes. At the same time, the Wasatch Front airshed is still in nonattainment and no existing, managed, high-capacity stormwater management system exists. A drier climate along with growing water consumption are resulting in extended drought periods and lower water levels in the Great Salt Lake. Influencing the industrial development pattern for sustainable and smart logistics is important to ensure both economic vitality and quality of life for the region.

FIGURE 16: TIMELINE FOR STRATEGY IMPLEMENTATION



The sustainability strategies presented in Figure 15 are scored based on their level of support for each of the above principles. The resulting total scores for each of the recommended strategies are then weighted based on the recommended timeline for implementation activities as shown in Figure 16 and described below:

- **Foundational activities** are driven by strategies that enable UIPA and stakeholders to make progress in the short run and with a relatively lower level of effort. These activities are given the highest weight since they facilitate the achievement of other implementation activities.
- **Enterprise activities** enable strategies that require relatively higher investments in time and effort, but they enable UIPA and stakeholders to continue the foundational activities while positioning them for future optimized activities. These activities are given a medium weight as they are enabled by foundational activities and are important for other future implementation activities.
- **Optimized activities** require the highest level of effort due to implementation complexity and coordination needed among UIPA and stakeholders. While initial efforts for these activities should start early, these activities enable strategies that can be implemented in the long run. These activities are given the lowest weight since they can be achieved in the long run.

The following sections present the recommended strategies and their timeline for implementation.

Air Quality & Energy

The US Clean Air Act sets National Ambient Air Quality Standards (NAAQS) for six criteria pollutants and directs the UDEQ to monitor, remediate, and provide a state implementation plan to the US Environmental Protection Agency (EPA), outlining plans to achieve attainment when pollution levels exceed the NAAQS thresholds.

Utah has made significant progress toward these goals. However, the Wasatch Front is currently in nonattainment for ozone, sulfur dioxide, and PM2.5. Transportation accounts for nearly 40 percent of the annual air pollution emissions in the Wasatch Front.¹² It is therefore important to not only reduce emissions from existing sources but also to monitor the growth of traffic due to ongoing and planned developments in the JA to ensure that new emissions sources (point and mobile sources) are not exacerbating pollution levels.

Figure 17 provides the prioritized sustainability strategy recommendations related to air quality issues and energy generation and consumption in the UIPA JA and the recommended responsibilities of UIPA and its stakeholders and partners to achieve success.

FIGURE 17: SUSTAINABILITY STRATEGY RECOMMENDATIONS – AIR QUALITY & ENERGY

Timeline	Prioritized Strategies	Responsibilities		
		Lead	Partner	Support
Foundational	1. Renewable Charging/Fueling Infrastructure Development	UIPA	Bayotech, Dominion Energy, Lancer, RMP, ASPIRE Center	US DOE, Utah Clean Cities
	2. Engagement with Focus on Infrastructure Challenges		Landowners, Developers, Tenants and Freight Operators, Service Providers, Utilities	Utah Clean Cities
	3. UIPA Strategic Sustainability Plan			
Enterprise	4. EV Adoption Facilitation	UIPA in Collaboration with Utilities	Utah DEQ, Utilities, Tenants and Freight Operators	US DOE, Utah Clean Cities
	5. Future Proofing		Bayotech, Dominion Energy, Lancer	
	6. All-Electric Building Construction and Adoption of Robust Energy-Efficiency Goals	UIPA in Collaboration with Landowners and Developers	Landowners, Developers	Utah Clean Cities, Utah Clean Energy

Source: CPCS analysis, 2022.

Strategy 1: Coordinate with Energy Providers for Charging/Fueling Station Development and Power Supply

If hydrogen fuel cell technology is pursued, UIPA can coordinate with Dominion Energy and Lancer Energy on hydrogen fueling station development to enable and support hydrogen fuel cell truck deployments and operations in the JA. UIPA can discuss the opportunities offered by the Advanced Clean Energy Storage project with Dominion, Lancer, and Utah Clean Cities.¹³

¹² Utah Department of Environmental Quality, [Utah's Air Quality 2021 Annual Report](#), 2021.

¹³ In June 2022, the US Department of Energy closed on a \$504.4-million loan guarantee to support the construction of a hydrogen storage hub in Utah. This project is expected to accelerate the state's path towards clean energy future. For more information, see: <https://www.energy.gov/articles/doe-announces-first-loan-guarantee-clean-energy-project-nearly-decade>

There are several landfills within the JA, which may provide an opportunity for generating renewable natural gas and hydrogen fuels for medium- and heavy-duty vehicles operating within the JA. UIPA can coordinate with Dominion Energy and Lancer Energy, and others to establish fuel generation and transmission capabilities within the JA.

UIPA can coordinate with the Utah Community Renewable Energy Agency, Rocky Mountain Power, and Salt Lake City to explore the opportunity for port tenants to join the Community Renewable Energy Program. This innovative program aims to provide participating Rocky Mountain Power customers an easy way to match their annual electricity consumption with renewable energy generation, paid for through their Rocky Mountain Power bills, by 2030.

Through the implementation of this strategy, UIPA qualifies for federal grant programs that assist with the outreach and development of clean charging/fueling technology. The Port Infrastructure Development Program, as described in the Sustainable Toolkit, is targeted at development that improves the movement and energy efficiency of ports. UIPA can partner in initiatives connecting California ports to Utah that deploy charging stations along long-haul corridors. Past projects under this program have included the deployment of electric vehicle charging and hydrogen fueling infrastructure. Similarly, the National Electric Vehicle Infrastructure Formula Program, established under Bipartisan Infrastructure Law (BIL), works with the state to identify eight potential corridors for electric vehicle service equipment. Implementation of such infrastructure along I-80 and I-215 can inform UIPA's future deployment of charging stations.

Strategy 2: Engage with Stakeholders within the Jurisdictional Area to Identify Challenges and Solutions for Providing ZE Infrastructure

UIPA can establish the means and platforms for ongoing conversations with the landowners, developers, and tenants within the UIPA JA to better understand their perceptions toward ZE vehicle and infrastructure adoption, as well as the challenges and barriers associated with such practices. This will enable UIPA to develop tactics for overcoming those barriers and integrating the lessons learned into future regional plans. UIPA can also play the coordinator role and bring together the major transportation facilities on the regional and national freight transportation system (such as rail yards and ports) and other statewide and regional agencies with a mission similar to UIPA to collaborate on developing ZE infrastructure development plans for regional-haul trucks, and also start planning for longer-haul truck ZE infrastructure needs.

Strategy 3: Develop an Internal UIPA Strategic Sustainability Plan

To demonstrate consistency and credibility across sustainable solutions and environmental actions, UIPA can create a Strategic Sustainability Plan. Elements of this plan may include:

- A sustainable development toolkit that includes green technology options for rural and metropolitan areas in Utah
- UIPA's internal environmental impact review process and environmental baseline map for projects in UIPA's jurisdictional area and other project areas
- Key performance indicators to evaluate technology options and measure sustainability performance
- Current and future state analysis
- Metrics, monitoring, and reporting to evaluate environmental compliance and performance
- Community partners, sustainability coalition groups, and communications
- Funding and Financing opportunities aligned with UIPA's grant strategy

Strategy 4: Facilitate the Adoption of ZE Vehicles and Equipment within the Jurisdictional Area

One of the key challenges will be the development of charging infrastructure within the JA. There are several funding and financial incentive programs at the federal and state levels that UIPA can leverage to achieve this, partnering with private sector entities to develop and execute ZE vehicle and equipment charging infrastructure pilot projects. Public facilities also play an important role. UIPA can play a coordinating and funding role in incorporating the development of renewable-fuel charging stations for public use, serving trucks and personal vehicles heading to, from, or through the neighboring communities. Depending on the cost of fuel provision and charging station operations, UIPA can evaluate the short- and long-term value of offering charging for free in order to encourage ZE vehicle adoption.

UIPA can consider developing a funding program (loan, grant, or otherwise) to incentivize tenants of the UIPA JA to deploy ZE vehicles, equipment, and infrastructure. Goal/target-setting for reducing transportation-related emissions within a certain time period can be utilized by UIPA to benchmark the performance and eligibility of the funding/incentive program applicants.

Technical assistance is another area in which UIPA can facilitate ZE vehicle and equipment adoption. Putting in place a team that can provide technical assistance to companies operating the JA would assist firms in adopting ZEVs on- and off-road, ZE equipment such as freight switchers, building charging/fueling infrastructure, ongoing operation & maintenance of charging stations, and workforce training for maintenance of charging stations and EVs or alternative fuel vehicles.

Several federal and state funding opportunities exist to assist with UIPA's ZE vehicle adoption. Among other programs described in the Sustainable Toolkit, the Diesel Emissions Reduction Act focuses on projects moderating the emissions of existing diesel fleets and truck replacements. UIPA can incentivize partner agencies within the jurisdiction to apply for this program in addition to seeking funding for their own implementation of clean fueling infrastructure. UIPA can also partner with businesses within their jurisdiction for the DOE's Small Business Innovation BIL has also established the Discretionary Grant Program for Charging and Fueling Infrastructure to help provide more electric and alternative fueling options in alternative fueling corridors like I-80 and I-215.

Strategy 5: Future Proof Fueling Infrastructure

As charging infrastructure is planned and developed within the JA, the focus should be kept on future demand and capacity. Deployment of ZE infrastructure is dependent on future grid capacity. Therefore, energy storage should be considered when deploying large-scale Direct Current Fast Charger stations as a way to reduce impacts on the utility's distribution grid. The current grid capacity would not be enough to support the full electrification of all UIPA-area vehicles. Key considerations for future proofing include:

- Taking future fueling capacity needs into account during initial construction and building to accommodate future scale-up of capacity and throughput without the need for retrofits.
- Prioritizing interoperability of equipment and systems (e.g., open-source communication standards for EV chargers and standard plugs).
- Designing to support anticipated vehicle technology that will be available in the future (i.e., the maximum power acceptance rate of EVs is increasing over time, meaning more powerful chargers should be deployed where relevant future use cases are anticipated).
- Designing infrastructure with an expectation for future advancements in vehicle-grid interface capabilities. Managed charging (V1G), vehicle-to-grid (V2G), vehicle-to-building (V2B), and other similar systems are in development and can provide significant benefits to infrastructure owners and operators, fleets, and utilities.
- Leveraging energy technology loans, state energy programs, and make-ready project incentives.

Strategy 6: Coordinate with Landowners and Developers to Implement All-Electric Building Construction and Adoption of Robust Energy-Efficiency Goals

With just over 4,000 acres of undeveloped land in the jurisdictional area, a focus on implementing all-electric building construction and adopting robust energy-efficiency goals for new buildings is key to minimize building emissions and reduce energy consumption. Some strategies to minimize emissions associated with warehouse and other commercial development include:

- Buildings should meet Net Zero standards, either by meeting 2021 IECC Appendix CC Zero Energy Commercial Building Provisions, or through a third-party net zero certification standard; or at minimum, meet an EPA Energy Star score of 90 or higher.
- Buildings located within Salt Lake City boundaries should participate in Salt Lake City's energy benchmarking program, Elevate Buildings.
- Buildings should be built emissions-free, meaning they operate without on-site fossil fuel combustion, and utilize efficient heating and cooling technologies such as heat pumps.

- Implementation of energy efficiency measures to reduce non-renewable energy reliance (on-site renewable energy production, energy-efficient design, utilizing heat sources created by industrial processes).
- Provide incentives for development that utilize on-site renewable energy sources, such as solar, wind, biomass and low-impact hydro or geothermal energy.

Natural & Water Resources

The UIPA JA borders ecologically sensitive areas along the eastern banks of the Great Salt Lake and its wetlands. In particular, the vacant properties north of I-80 are close to the Kennecott Inland Sea Shorebird Reserve, the South Shore Preserve, Gillmor Sanctuary, Salt Lake City International Airport Wetland Mitigation Site, and Westside Duck Clubs. Located in the JA near its southern edge is Lee Kay Wildlife Conservation Area, owned and managed by the UDWR.

Meanwhile, Utah is the second driest state in the US, with more than one-third of the state classified as experiencing extreme drought by the US Drought Monitor. According to the US Drought Monitor, Salt Lake County is a severe drought area, which is defined as an area in which inadequate pasture and water for farm animals are driving changes in ranching practices, where air quality is low due to dust storms, and natural sources of water are drying out.¹⁴

Also, a major concern of the UIPA stakeholders is with respect to the stormwater runoff from new development sites into the adjacent sensitive natural and wildlife habitat areas. Without proper monitoring and water quality management, degraded runoff water collected from impervious surfaces such as roads, parking areas, and rooftops can directly affect the water quality in those natural areas. Reduction in permeable surfaces can also lead to the amplification of natural hydrological cycles and affect shorebirds' nests and populations. The existing stormwater system is one of the largest carrying capacity constraints with UIPA's JA. Although work is underway on a Northwest Quadrant Stormwater Master Plan, it covers only part of the JA north of I-80.

Therefore, natural and water resources, especially wildlife habitat protection and runoff management, are critical considerations for the new developments in the UIPA JA. Figure 18 provides the prioritized sustainable strategy recommendations related to natural and water resources as well as recommended roles for UIPA and its stakeholders and partners.

FIGURE 18: SUSTAINABILITY STRATEGY RECOMMENDATIONS – NATURAL & WATER RESOURCES

Timeline	Prioritized Strategies	Responsibilities		
		Lead	Partner	Support
Foundational	1. Stormwater and Drainage Master Plan and a Stormwater Pollution Prevention Program Based on Northwest Quadrant Stormwater Master Plan Considerations	UIPA, in Collaboration with SLC, Jacobs, and Landowners	SLC Public Utilities, SLC Health Department, Jacobs, UDEQ	Non-profit Environmental Groups
	2. Phased Development Facilitation		Landowners	
Enterprise	3. Building UIPA's Resource Management Role	UIPA	Non-profit Environmental Groups	
	4. Enhancing Existing Conservation		SLC, SLCRDA, UDWR, Non-Profit Environmental Groups	Landowners
Foundational	5. Incentivizing the Location or Expansion of Low Water Using Businesses and Encouraging Water Conservation Practices and Usage Reporting		SLC, Landowners	

Source: CPCS analysis, 2022.

¹⁴ Utah, US Drought Monitor, Curtis Riganti, August 2022. [National Drought Mitigation Center of the University of Nebraska-Lincoln, US Drought Monitor, accessed May 2022.](#)

Strategy 1: Develop a Stormwater and Drainage Master Plan for the entire jurisdictional area and a site-level Stormwater Pollution Prevention Plan Program for use within the jurisdictional area based on Northwest Quadrant Stormwater Master Plan considerations

Stormwater management is an issue throughout the JA. While different geographies within the JA may have different issues to resolve, a stormwater management system will need to be developed for the entire JA. Among other objectives, the plan should identify a system owner that will take on the responsibility and accountability for the system, either a public agency or an entity with the resources and legal status to permanently operate, manage, and maintain the system, including rights-of-way or easements.

UIPA can review the Northwest Quadrant Storm Water Master Plan¹⁵ and encourage landowners and developers to utilize the information. The guidelines can be included in any site development standards UIPA develops for the JA. UIPA can also work with SLCDPU to develop runoff conveyance and drainage strategies, define direct discharge systems, and reduce the need for on-site flow control. This can be in tandem with the Northwest Quadrant Storm Water Master Plan, which is currently under development.

Additionally, UIPA can work with UDEQ as well as non-profit environmental organizations, such as Audubon Society, The Nature Conservancy, and others, to prepare a Stormwater Pollution Prevention Plan (SWPPP) template for landowners, developers, and facility operators to utilize for all new site developments. The program would also include annual business (site) inspections to assist with SWPPP implementation as well as help with stormwater source control.

The SWPPP template can be developed in tandem with the results of the Northwest Quadrant Storm Water Master Plan and include guidelines on how to determine and delineate the amount of receiving water, whether development sites are on floodplains, as well as best LID practices and runoff management methods, including paved surface reduction, material use and storage restrictions/guidelines, and landscape management planning. UIPA's environmental staff can work with SLCDPU and UDEQ staff, as well as environmental organizations, to establish a Business Site Inspection Program to assist landowners and developers with runoff management and SWPPP implementation.

Both federal and state funding opportunities listed in the Sustainable Toolkit can assist with the planning process for stormwater management and runoff reduction. The EPA's Sewer Overflow and Stormwater Reuse Municipal Grants are specifically aimed at communities that struggle with irregular flooding and water quality issues. Any efforts to plan, research, or implement clean water strategies are included in grant eligibility. UIPA can request funds through a state-intended use form or qualify independently for the state's Water Quality Assistance Program or Conservation Innovation Grants.

Strategy 2: Phase compatible development to mitigate impacts on water resources and natural areas

UIPA can encourage the JA's landowners and developers to first focus their expansion and new development plans on land near existing development before moving to areas near sensitive natural resources and habitat. UIPA can also consider mitigating runoff contamination and ensuring water conservation by identifying and attracting low-water-use companies within the JA that meet and exceed SLC zoning requirements of using less than 200,000 gallons per day. Also, UIPA can monitor water usage within the JA and encourage businesses within the JA to conserve water and report usage and conservation annually.

Strategy 3: Continue to build UIPA's role in and grow its program for natural resource management

Natural resource management in the JA is crucial for the protection of biodiversity and the healthy ecosystem of Great Salt Lake and its surrounding wetlands and playas. UIPA has the opportunity to become a center of expertise in eco-centric transportation and freight development and operations through its stakeholder engagement and collaborative partnerships. By continuing to build out its natural resource management

¹⁵ Currently under development by Jacobs in collaboration with non-profit environmental organizations, UIPA, SLCDPU, and developers.

program drawing on public, non-profit, and private expertise and enhanced public outreach and communication, UIPA can stake a leadership position in this space. This would emphasize:

- Focusing the natural resource management program on implementation and continuous improvement of natural resource-focused strategies.
- Creating a Community Advisory Council focusing on sustainable development, made up of subject matter experts in habitat and wetlands management specific to the ecosystems found within and around the UIPA JA.
- Maintaining up-to-date inventories and mapping of sensitive natural resources, noxious weeds, and associated protective buffers (GIS and natural resources field survey data). Ongoing collaboration with UDEQ, UDWR, non-profit environmental organizations, and private partners can help UIPA access updated data.
- Identifying opportunities for and maintaining an inventory of conservation easements, access agreements, Memorandums of Understanding, or other agreements for joint land management opportunities that promote the protection and wise use of natural resources between various landowners and managers, including opportunities that provide connectivity of important habitats to larger natural areas.
- Collaborate with the Utah Department of Agriculture and Food, Salt Lake City Mosquito Abatement District, Salt Lake County Health Department, and local agencies to develop an Integrated Pest Management Plan (noxious weeds, mosquitos, etc.) for use by private and public land managers within the UIPA JA.

Any of the natural resource funding options listed in the Sustainable Toolkit can contribute to these efforts in growing UIPA's leadership role in natural resource management in the JA. Federal funding options include the Joint Chiefs Landscape Restoration Partnership and stormwater management grants. These federal programs assist in the planning and implementation of greener infrastructure and sustainable land management strategies that protect local ecosystems. UIPA can also apply independently for state-run grant programs. Conservation Innovation Grants assist with taking regular soil and natural resource inventories in addition to efforts to improve water quality. Finally, UIPA can look to the Water Quality Assistance Program to fund public education and outreach efforts related to the area's ecosystem health.

Strategy 4: Enhance Existing Conservation and Open Space Areas in and around the Jurisdictional Area

The Joint Chiefs Landscape Restoration Partnership, funded by US Department of Agriculture, would help advance UIPA's efforts in managing and restoring the natural environment around the JA. Eligibility for the program includes UIPA's strategies to improve water quality and runoff pollution in addition to preserving the natural ecosystem. Further details on the program and other opportunities for the conservation of the area's environment can be found in the Sustainable Toolkit.

Strategy 5: Help targeted businesses, with a focus on low water users, locate or expand to the jurisdictional area using incentives and encourage water conservation practices and water usage reporting

Due to the limited availability of water in the jurisdictional area, it is important to conserve water and replenish critical water resources like the Great Salt Lake. UIPA can incentivize the location or expansion of low water using businesses, such as those who participate in voluntary partnership programs like WaterSense¹⁶, sponsored by the EPA to promote awareness around the importance of water efficiency and encourage positive actions to reduce water use. UIPA can also incentivize location or expansion of businesses to the jurisdictional area that use green roofs and green infrastructure, which collect storm water for site irrigation or other consumptive uses.

¹⁶ EPA's WaterSense Program- Overview, Accessed in 2022: <https://www.epa.gov/watersense>

UIPA can encourage water conservation practices and water usage reporting among businesses in the jurisdictional area and support water conservation research. Some water conservation practices that can be encouraged include landscaping improvements that minimize water usage, water consumption reduction within buildings due to implementation of high-efficiency appliances and water saving programs, as well as investments in water retention and infiltration infrastructure including rainwater holding tanks, urban reservoirs, and bioswales.

Transportation

The transportation strategies listed in Figure 19 and described below identify how intentional consideration, planning, and collaboration regarding transportation can contribute to smart, efficient, and sustainable development.

FIGURE 19: SUSTAINABILITY STRATEGY RECOMMENDATIONS – TRANSPORTATION

Timeline	Prioritized Strategies	Responsibilities		
		Lead	Partner	Support
Foundational	1. Transportation Management Plan	UIPA	UDOT, UTA, Railroads, WFRC	SLC
	2. Partnership with West Coast Ports		Ports, Railroads	Landowners
3. Developing Staff and Agency Capacity				
4. Creating a Sustainability Business Association	SLC, SLRDA			
Enterprise				

Source: CPCS analysis, 2022.

Strategy 1: Develop a Transportation Management Plan for the UIPA JA

While site planning and development are ongoing, there is an opportunity to identify and mitigate transportation issues in advance of them arising. Focusing on both transportation and land use, elements of a transportation management plan for the UIPA JA can include:

- Developing a multimodal transportation system in the UIPA JA with increased accessibility for people of all ages and abilities, improved east-west mobility for all modes, and enhanced safety and accessibility features for transit users and active transportation modes.
- Designating freight routes connecting to, from, and within the JA, focusing on moving freight in/out of the JA connecting along corridors near I-80 and discouraging through-trips via nearby communities in SLC, West Valley City, and Magna.
- Locating one or more signature, high-quality, full-scale truck stops within the JA near or along I-80. Truck stops located in the JA would provide charging stations, state-of-the-art amenities for truck drivers, and related services that would serve trucks in the JA and help attract truck parking away from residential or commercial areas. Design and operation should be sustainable and a model for the industry as conventional open parking spaces contribute to urban heat island effects,¹⁷ affect water qualities due to contamination of runoff, and pose safety and quality of life concerns if designs are incompatible with the needs of active transportation modes. Strategies to address such concerns can include the use of shading, green spaces, compatible drainage system designs, ZE energy sources, and safe and efficient traffic circulation designs.
- Developing support facilities within the JA, such as truck, container, and equipment maintenance and repair facilities.
- Working with Utah Transit Authority (UTA) and employers to create scalable transit service to provide employee commute options and identifying key amenities needed, such as well-protected enclosures at key transit stops within the JA to make transit service attractive to workers in the JA.
- Providing options for active transportation, such as expediting elements of the 2015 Salt Lake City Bicycle and Pedestrian Master Plan (such as the Antelope Island Trail and West Side Trail) within the JA and, where feasible, completing new elements to enhance the regional trail system.

To assist with the planning and implementation phase of a transportation management plan, UIPA can look to multiple federal and state funding programs. Under BIL, UIPA is eligible for Infrastructure for Rebuilding America and Mega grants. Mega specifically looks for projects that improve public transportation access, multimodal freight corridors, and the national highway system. Designating truck stops along significant freight corridors and improving public transportation access to the JA would all qualify for Mega grants. Similarly, the Consolidated Rail Infrastructure and Safety Improvements (CRISI) program address corridor service

¹⁷ According to US EPA, urban heat islands occur due to replacement of natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. For more information, see: <https://www.epa.gov/green-infrastructure/reduce-urban-heat-island-effect>

development and efficiency improvements outline in the management plan. CRISI specifically assists with funding the preliminary studies and analysis necessary for UIPA's identification of significant freight routes and more efficient vehicle travel.

Utah's Land and Water Conservation Fund focuses more on the plan's goal to improve public access to the JA. The reimbursement program looks to fund projects that improve outdoor recreation through creation of trails and walkways, parking facilities, and waterbody access. Both state and federal funding programs related to goals identified in the transportation management plan strategy can be found in greater detail in the Sustainable Toolkit.

Strategy 2: Leverage land and infrastructure to develop partnerships with West Coast container ports bringing sustainability and economic value to Utah

UIPA has already entered partnerships and collaborations with some of the West Coast ports and has begun establishing relationships with ocean carriers, railroads, major shippers, trucking companies, and container yards. UIPA should continue to grow these types of relationships to leverage the region's land and existing infrastructure assets and facilitate the sharing of data and information through the supply chain. This will enable UIPA to help local partners enhance the efficiency and sustainability of their operations through the use of direct rail connections with the West Coast container ports. UIPA can provide and maintain a digital infrastructure (similar to what Port of Long Beach is doing with the Supply Chain Information Highway¹⁸) to enable JA companies to operate more efficiently and make better use of both land and transportation assets.

Strategy 3: Develop staff and agency capacity to become a sustainable development and transportation resource center

UIPA sits at the nexus of public and private investment and is uniquely positioned to become a resource center for landowners and companies in the JA and throughout Utah on sustainable development and transportation. UIPA has built and should continue to grow internal staff capacity to directly provide or indirectly connect landowners and companies with financing, technical expertise, and R&D resources to advance sustainable development and goods movement.

Strategy 4: Create a business association within the jurisdictional area focusing on sustainability

UIPA can sponsor the creation of a business association within the port's JA that is charged with facilitating continuous improvement in sustainable development, operations, and transportation. The association can consider executing the following:

- Promoting sustainable practices and programs, implementing strategies to coordinate and support sustainable transportation and development practices among landowners and companies within the JA, and communicating about sustainability practice advances in the JA and beyond.
- Providing services to employers and employees in the JA as a transportation management association working with employers, UTA, UDOT, and other transportation-related entities to create partnerships to support and implement ongoing sustainable transportation solutions for freight movement and commuting. This can include activities such as collaboration on developing scalable transit service as well as promoting the use of EPA's SmartWay program for freight and identifying local partnerships to use the program.
- Encouraging the development of rail-served sites, where feasible, to facilitate greater use of freight rail by industrial developments.
- Attracting to JA companies which can leverage rail access at regional rail facilities in the JA and companies that can share materials and equipment within the JA, shortening supply chains and optimizing recycling and re-use of material.
- Leveraging land within the JA to recruit companies supplying metro Salt Lake, particularly JA, firms with components, and companies using metro Salt Lake-made components to the JA to shorten supply chains.

¹⁸ Port of Long Beach plans Supply Chain Information Highway for cargo tracking visibility, [Supply Chain Dive](#), Alejandra Salgado, December 2021.

- Pursuing partnerships with state and local agencies to leverage technology, such as Intelligent Transportation Systems, the Intelligent Crossroads Network, and others, to improve the efficiency of goods movement and to attract target companies to the JA.

Land Use

Development patterns and demand for land have changed since SLC adopted the Northwest Quadrant Master Plan in 2016. Strong population and economic growth, e-commerce as a disruptor for transportation and land use, the creation of the UIPA, the COVID-19 pandemic, and supply chain breakdowns and backlogs have all contributed to an increased demand for industrial land, changes in how that land is used, and increases in freight activity.

Given the region's rapid growth and the conflict market-driven development can create with the natural environment, it is important for UIPA and its stakeholders to focus on the sustainability of development in the JA. Figure 20 provides the prioritized sustainable land use strategy recommendations for UIPA. These strategies set an ambitious pathway for sustainability within the JA and will require intensive effort on the UIPA's part to collaborate with its stakeholders and partners to achieve success.

FIGURE 20: SUSTAINABILITY STRATEGY RECOMMENDATIONS – LAND USE

Timeline	Prioritized Strategies	Responsibilities		
		Lead	Partner	Support
Foundational	1. UIPA Master Plan	UIPA in Collaboration with SLC	Landowners	West Valley City, Magna Township
	2. Zoning Review		SLCRDA	
Enterprise	3. Development Consolidation		SLC, Landowners	
	4. Onboarding Incentives	UIPA	Landowners	
Optimized	5. Coordinated Planning Processes	UIPA in Collaboration with SLC	SLCRDA	UDOT

Source: CPCS analysis, 2022.

Strategy 1: Create a master plan to demonstrate sustainable development through a collaborative process with stakeholders leveraging the sustainable land use development framework

The sustainable land use development framework, described in Figure 12 and Figure 13, provides principles, guidelines, and best practices that should serve as the basis of a master planning process for those parcels within the JA for which development has not yet begun. A master plan can enable UIPA and its stakeholders to spatially assess the benefits, costs, and trade-offs of developing versus protecting certain sites within the JA, particularly in light of the key carrying capacity constraints around natural resources, air quality, and stormwater management. The master plan can also generate alternative designs, facilitating thoughtful, coordinated, and engagement-based planning rather than a series of one-off, market-driven developments that often do not have the benefit of contextual assessment. The master plan can consider, among other things:

- Analyzing in greater detail carrying capacity questions identified through stakeholder outreach, including, but not limited to, air quality, stormwater management, natural resources, future demand and supply of water and energy, land use, and transportation.
- Providing for energy efficiency uses, such as a solar energy farm, and compatible joint uses, such as micro-farming or hydroponics.
- Supporting the development and early deployment of green technology test beds or a small, internal, limited access road network that can allow for the use of automated freight vehicle movement within the JA and incorporating that technology as the JA develops.
- Enhancing the existing commercial corridor and introducing new commercial clusters in support of the freight uses within the JA (hotel, retail, office, etc.)

Funding sources found in the Sustainable Toolkit detail a variety of opportunities to support the process of developing a master plan. For example, UIPA can take advantage of Brownfields Assessment Grants under the EPA's Brownfields Program to inventory, characterize, assess and/or conduct a range of planning activities, develop site-specific cleanup plans, and conduct community involvement related to brownfield sites.

The state also administers multiple financing programs for building owners and institutions supporting start-up businesses to retrofit facilities for energy cost reduction. UIPA can look to both federal and state funding programs to assist with the preliminary studies and planning related to developing a land use master plan.

Strategy 2: Review and amend zoning ordinances, overlays, and development agreements

In partnership with local governments and landowners, land use plans, policies, and agreements should be reviewed in today's context in conjunction with master planning efforts. The review would address several important questions that can inform the master plan:

- Can the JA as a whole accommodate the amount and type of development envisioned when existing plans and policies were established?
- If there are constraints, which are permanent constraints and which might be addressed through incremental and coordinated sustainable development?
- How can the Wasatch Front, as a region, more comprehensively, thoughtfully, and sustainably manage freight-related development? Are there other areas in and around the Wasatch Front that, through regionally coordinated planning, can take the pressure off the existing UIPA JA?
- What changes might be made, to the extent possible, in existing zoning, land use and transportation policies, development agreements, and other land use frameworks to reflect the changing nature of the region and its sustainability needs while keeping a focus on smart, sustainable freight transportation?

Strategy 3: Consolidate development near existing infrastructure

UIPA can encourage landowners to focus more intense freight development along the I-80 rail and road corridor and near the airport to enable less intense development near natural areas as well as reduced freight activity in residential communities within and adjacent to the JA. This would include locating facilities generating heavy freight traffic (both weight and truck trip volumes) near existing road and rail infrastructure. Land near the airport should focus on activities supporting the movement of air cargo.

Also, UIPA can encourage the development of joint utility systems across facilities wherever possible. This would help to limit truck trips, vehicle miles traveled, emissions, and congestion, while improving supply chain reliability. Lighter uses for land further away from existing infrastructure can include test beds for developing and early deployment of technology, including a small, limited-access, internal roadway network for autonomous vehicles.

Strategy 4: Create incentives and a strong business case for private development onboarding within UIPA sustainability strategies

UIPA can explore creating government-based and market-driven incentives for private developers and companies operating within the JA to adopt and implement UIPA-adopted sustainability strategies and achieve sustainability goals. This strategy can encourage private sector firms who may view adoption of UIPA sustainability approaches as a front-loaded project or operations cost or as a costlier approach overall to invest in world-class, state-of-the-art, ZE logistics solutions that maximize long-term environmental and economic benefits. Building a strong business case to show market-driven returns for such investments as well as public sector incentives for helping offset some initial costs can both increase and speed up buy-in and ultimately implementation. Examples include:

- Working with other public or quasi-public entities which can write and accept state and federal grants to develop shared public infrastructure within the JA, that would reduce private development costs, incentivized through sustainability plan compliance agreements that can be established by UIPA in collaboration with the landowners.
- Creating a sustainability certification program for developments within the JA. Stakeholders, including landowners and developers, business interests, natural resource experts, and developers, City and Inland Port members would help develop and evaluate proposed development plans for alignment with UIPA guidelines/standards. This can be a point system that enables firms reaching a certain number of points (aspirational, yet attainable) to receive a "UIPA Approved" status. Working with public entities, utilities, and others, this special status would create value for developers and businesses, with the market enticing them to participate.

State programs, as explained in the Sustainable Toolkit, provide opportunities for publicly owned buildings and private start up companies to expand their operations or improve their facilities. The Utah Economic Development Loan Fund and Tax Increment Financing Program both offer financial incentives to businesses meeting benchmarks for job and capital creation or energy cost improvements. UIPA can partner with businesses within its jurisdiction (or businesses willing to locate to the JA) to finance the port's infrastructure improvements and development.

Strategy 5: Facilitate a coordinated, combined regional land use and transportation planning process with key partners and stakeholders

Freight movement is both a local and regional issue. SLC, West Valley City, and Magna, the three entities in which the UIPA JA lies, can and do play roles to support local and regional freight movement. However, they may not be best suited to address the bulk of the larger Wasatch Front region's freight mobility issues. Today, WFRC, as a Metropolitan Transportation Organization, already coordinates regional transportation planning. WFRC also serves as a convener on regional land use and growth issues, similar to UIPA's role on freight transportation. According to the Council's mission statement, WFRC "builds consensus and enhances quality of life by developing and implementing visions and plans for a well-functioning multi-modal transportation system, livable communities, a strong economy, and a healthy environment."¹⁹

Other regions, particularly in the Cascadia Region of the Pacific Northwest, have established entities that oversee and coordinate both regional transportation and land use planning as a vital growth management tool. Creating a coordinated, regional land use and transportation planning process for the entire Wasatch Front under a single entity would enhance the region's ability to plan for and accommodate smart, sustainable goods movement, leverage UIPA's role and expertise as an entity with a local, regional, and statewide focus, and coordinate land uses and transportation to maximize efficiency and meet the needs of both. A regional context may also enable the development of a larger toolbox, such as identifying potential freight nodes around the region's perimeter and an evaluation of the value of transferring development rights on a regional rather than local basis.

¹⁹ [Wasatch Front Regional Council website](#): accessed 2022.