#### Summary of 2019 Legislation Affecting The Utah Inland Port Authority

#### Changes to Inland Port Authority Enabling Law – HB 433

HB 433 amends the Utah Inland Port Authority enabling legislation and other sections. It:

- Corrects some errors and clarifies certain provisions by adding some definitions. It specifies that the authority can own and operate an Intermodal Facility but not public infrastructure in the authority jurisdictional land. The authority can issue assessment bonds. It changes the hiring deadline for the Executive Director to July 1, 2019.
- 2. Creates the "hub and spoke" model. It establishes the authority jurisdictional land as a project area and allow for other project areas to be created in other parts of the state, with the consent of the local governing body and the landowner.
- 3. Changes the property tax differential definition, collection, and distribution:
  - a. Increases the maximum for administration to 5%;
  - b. Allows for the sharing of new growth in property tax revenues with the other taxing entities;
  - c. 10% of the tax differential is set aside for affordable housing money in the authority jurisdictional land. It will be paid to the RDA from which it is generated.
  - d. Excludes the collection, judgment, and general obligation bond levies from the definition of differential;
  - e. Grandfathers some facilities which received a certificate of occupancy prior to December 1, 2018, so they are not part of the property tax differential and it grandfathers the RDA agreements entered into prior to October 1, 2018;
  - f. Sets the base year for the authority jurisdictional land at 2018 and the grandfathered RDA contracts at 2017;
  - g. Clarifies that property tax differential will be collected on pre-certificate of occupancy taxable value above the base year but the authority cannot spend differential in the authority jurisdictional land until the business plan is adopted; and,
  - h. Allows for adding 15 years of property tax differential collection to projects if the board determines that there is a significant benefit.
- 4. Establishes litigation parameters so a lawsuit challenging the authority jurisdictional land needs to be brought within 30 days of the board's adoption of the business plan and for the other satellite project areas within 30 days after the project area is created;

- 5. Promotes significant pollution reduction in building operations, use of renewable energy, and less polluting truck traffic:
  - a. Allow the authority to issue commercial property assessment clean energy (CPACE) bonds to incentivize the landowners to development energy efficient and renewable improvements as part of their construction; and,
  - b. Provide for renewable energy projects within the authority jurisdictional land to aggregate the customers to achieve the 5 MW threshold to receive beneficial energy rates.
  - c. Encourage all class 5 though 8 trucks entering the authority jurisdictional land to meet 2007 or later emission standards.
- 6. Provide that the authority will receive the point of sales portion of the sales and use tax for items brought from out of state and delivered to the project area site. Half of the tax will be shared with the entity that would have received it if the authority was not involved. The effective date is delayed until January 1, 2020 to allow the tax commission time to implement these provisions.
- 7. Allows the authority to work with GOED and use EDTIF funds if the parties agree.
- 8. Requires a disclosure of a personal financial interest from board members of governmental bodies that own property in the authority jurisdictional land.

#### ENVIRONMENTAL MONITORING OF INLAND PORT AREA AND AIRPORT - SB 144

SB 144 directs the Department of Environmental Quality to establish and maintain monitoring facilities to establish a baseline for air and water quality in the inland port area and a baseline for the air quality at the Salt Lake International Airport. The department will measure the environmental impacts from development and operations in the inland port area. The data will be published on the department's website and an annual report will be given to the Inland Port Board.

#### Infrastructure Loan to the Inland Port Authority SB 268

SB 268 amends 63B-27-101(3) to allow the Inland Port to borrow from the Transportation Infrastructure Loan Fund administered by UDOT: "(b) \$5,000,000 to the Inland Port Authority created in Section 11-58-201, for highway, infrastructure, and rail right-of-way acquisition, design, engineering, and construction, to be repaid through tax differential"



UTAH INLAND PORT

Current Zoning of Inland Port Envision Utah March 27<sup>th</sup> 2019



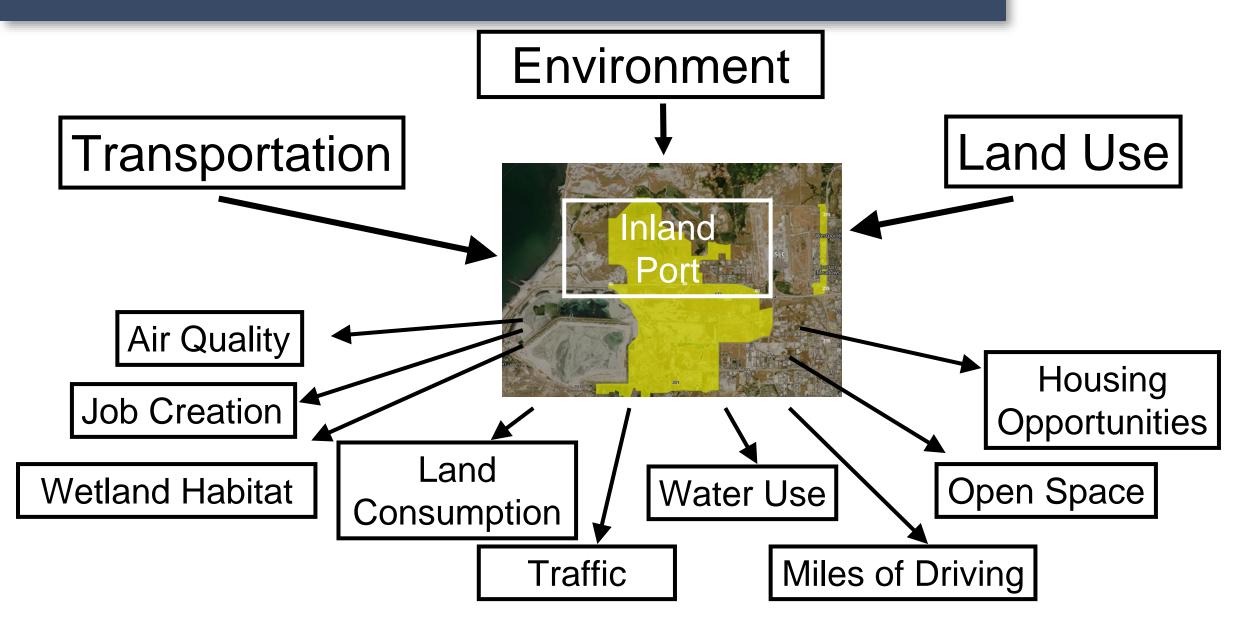
### Summary



- Prior planning has identified large areas for preservation and other areas for industrial development.
- Under existing zoning rights, more than 150 million square feet of industrial development could be built in the Inland Port area.
- This will lead to a substantial increase in vehicle trips and miles driven.
- Although vehicles are getting cleaner, the increased driving mileage means area emissions likely will not decrease.
- It's not a question of whether the area will develop, but of how.
- With the currently scheduled process of research and planning, the UIP can drive stakeholders to more efficient transportation models that will reduce overall emissions and create a global example of clean manufacturing and distribution.

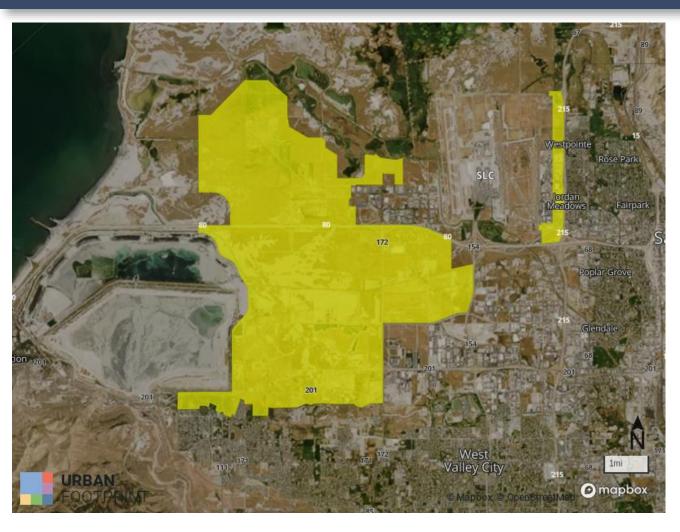
### **Scenario Choices**





### **Preliminary Analysis of Buildout**

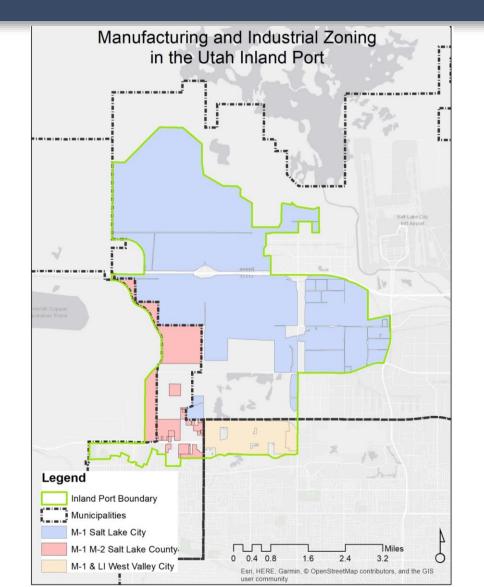




- This is a preliminary analysis of the potential development of the Inland Port area under existing zoning
- A refined baseline scenario will need to be analyzed using market projections and in-depth models

# Gov. Process for Regulating Uses





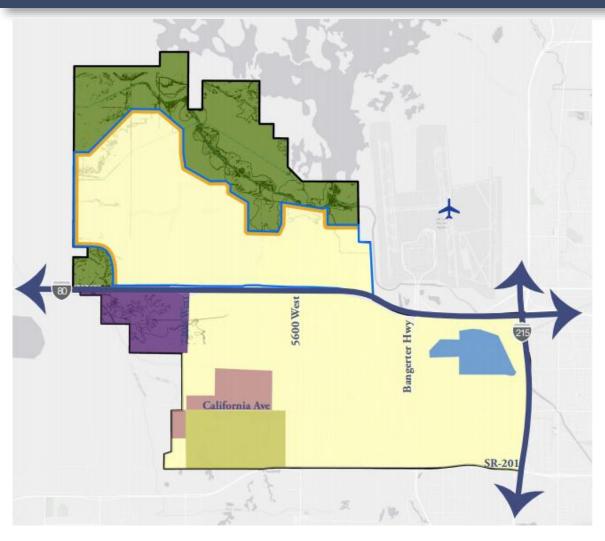
The land is split between three jurisdictions that control land use through:

- 1. Master Plan/General Plan
- 2. Zoning for Specific Uses (permitted or conditional)
- 3. Specific Land Use Approval or Entitlement (Vesting) Usually includes conditions

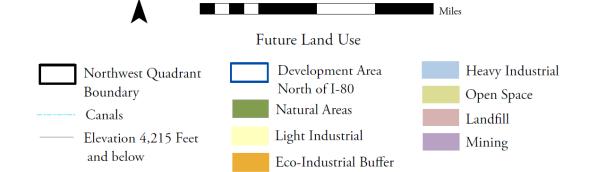
Most of the land is within Salt Lake City

### **SLC Northwest Quadrant Master Plan**





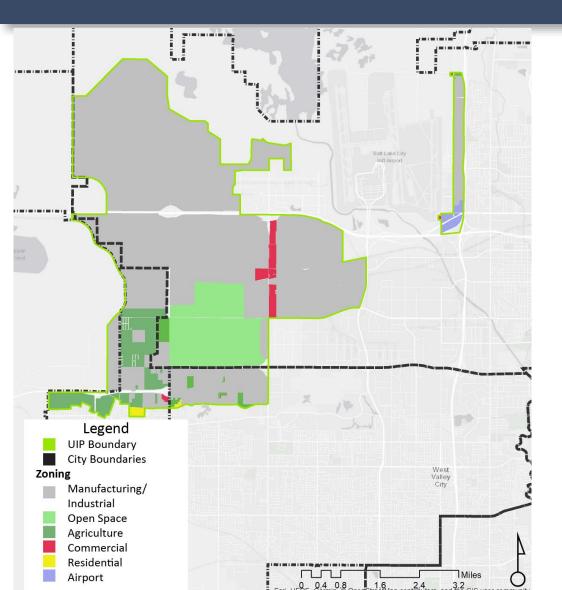
- Land use in the NWQ Master Plan was primarily industrial, manufacturing, and related land uses referred to as an "ecoindustrial park"
- SLC focused on environmental issues as they granted approvals and the natural areas were excluded from the Inland Port boundaries



Source: NWQ Master Plan, Salt Lake City

# **Current Zoning**





Salt Lake City, Salt Lake County, and West Valley City zoned the Inland Port area primarily as light manufacturing

### **SLC Zoning**

- Salt Lake City zoned the Inland Port area primarily as light manufacturing in anticipation of an inland port
- Approximately 17% of the land is not zoned M-1 – these other uses include agriculture and open space
- An overlay zone was added to allow inland port uses
  - Impactful uses (e.g., rail freight facilities) must undergo conditional use process and establish an environmental impact mitigation plan

Inland Port Authority Area Light Manufacturing Salt Lake City Boundary Business Park Zoning Districts in Inland Port Area Commercial Corridor Agricultural General Commercial Agricultural-2 TSA-MUEC-C Mixed Use Employment Center- Core Open Space TSA-MUEC-T Mixed Use Employment Center- Transition

Zoning Districts Within Inland Port Authority Juristictional Land

Source: Salt Lake City Planning

# **Entitlement/Vested Rights and TIF**

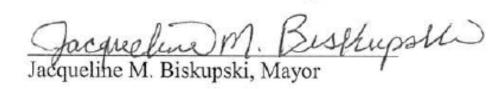




#### CITY:

SALT LAKE CITY CORPORATION, a Utah municipal corporation

Source: Master Development and Reimbursement Agreement for Northwest Quadrant (West), January 2018



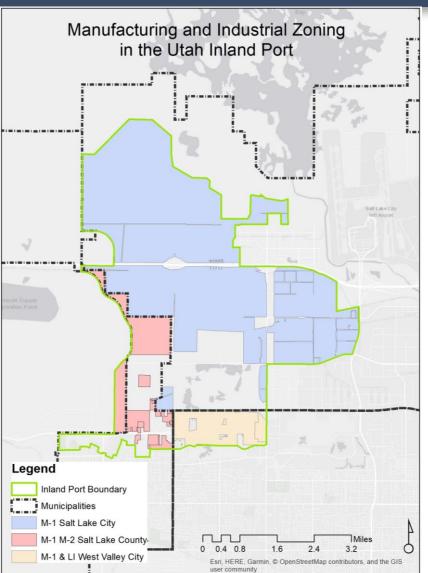
- The cities have granted vested rights and tax increment financing to thousands of acres of privately-owned land.
- These rights <u>prohibit</u> down-zoning or reductions in use under current zoning.

# Landowners are moving forward to develop infrastructure and market properties



# **Current Zoning Projections**





**90%** Lot Coverage

382,716,259 Sqft. Built

382 Amazon Centers

2,138 Walmart Supercenters

1,542,347 Daily Vehicle Trips

**60%** Lot Coverage

255,144,173 Sqft. Built

255 Amazon Centers

1,425 Walmart Supercenters

1,028,231 Daily Vehicle Trips

**40%** Lot Coverage

170,096,115 Sqft. Built

170 Amazon Centers

950 Walmart Supercenters

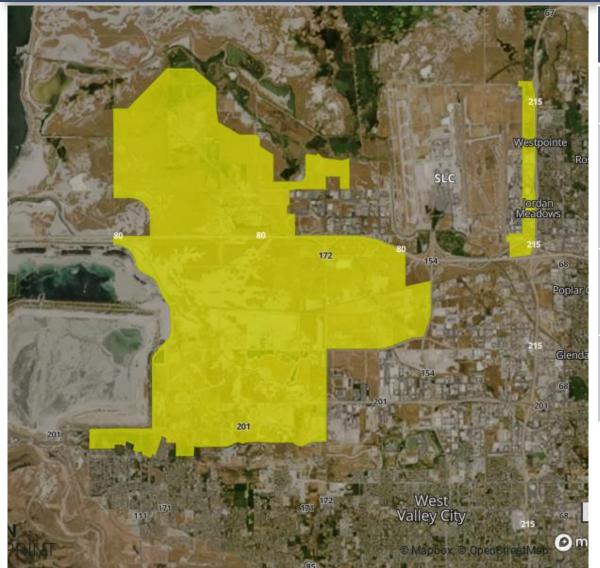
685,487 Daily Vehicle Trips

Source: Envision Utah calculations, after removing 20% of land for infrastructure. Assuming 1M sqft for Amazon, 179K Walmart Supercenters, and 4,030 daily trips per million sqft



# WFRC 2050 Projections



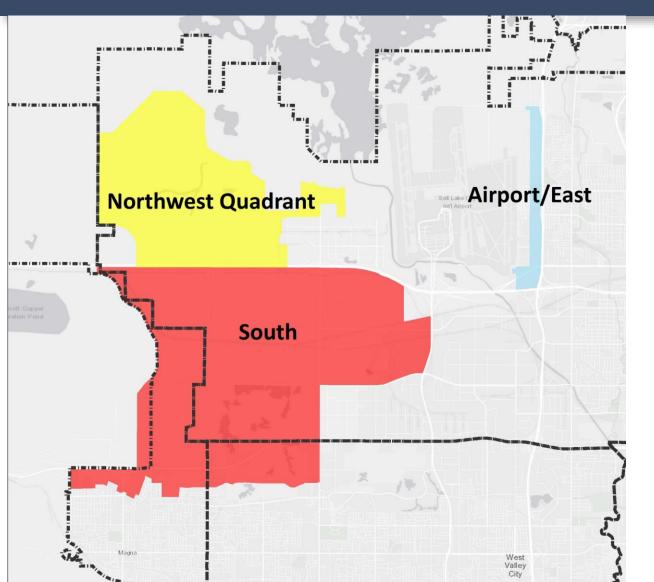


	2019	2050
Total Sqft Built	18,950,000	47,700,000
Amazon Distribution Centers	19	48
Walmart Supercenters	106	266
Daily Vehicle Trips	76,368	192,231

Source: Wasatch Front Regional Council Note: Projections do not reflect full buildout.

### WFRC 2050 Projections



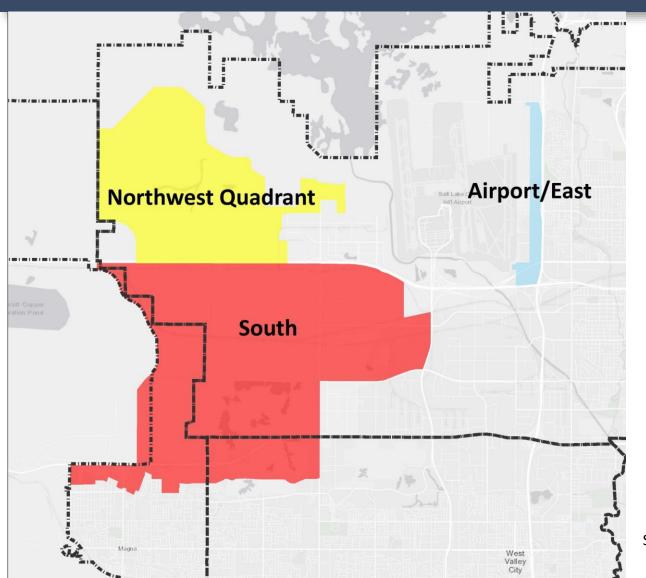


- Total Jobs in Northwest Quadrant will grow 7.5x from 6,000 to 45,000
- Jobs in IPA South area will triple from 14,500 to almost 45,000
- In the airport portion, 6,000 jobs will be added

Source: Wasatch Front Regional Council

# WFRC 2050 Projections





Vehicle Miles Traveled	2019	2050
NW Quadrant	375,000	1,397,000
South	734,000	2,336,000
Airport	483,000	769,000
Total	1,579,000	4,450,000

Source: Wasatch Front Regional Council

## **Total Emissions Projections (lbs)**



	2019		2050			
	PM 2.5	NOx	VOCs	PM 2.5	NOx	VOCs
NW Quadrant	32.9	607.7	472.2	44.2	633.7	760.0
South	64.5	1,189.5	924.3	73.9	1,059.6	1,270.9
Airport	42.4	782.7	608.3	24.4	348.8	418.4
Total	138.7	2,558.8	1,988.3	140.9	2,018.5	2,421.1

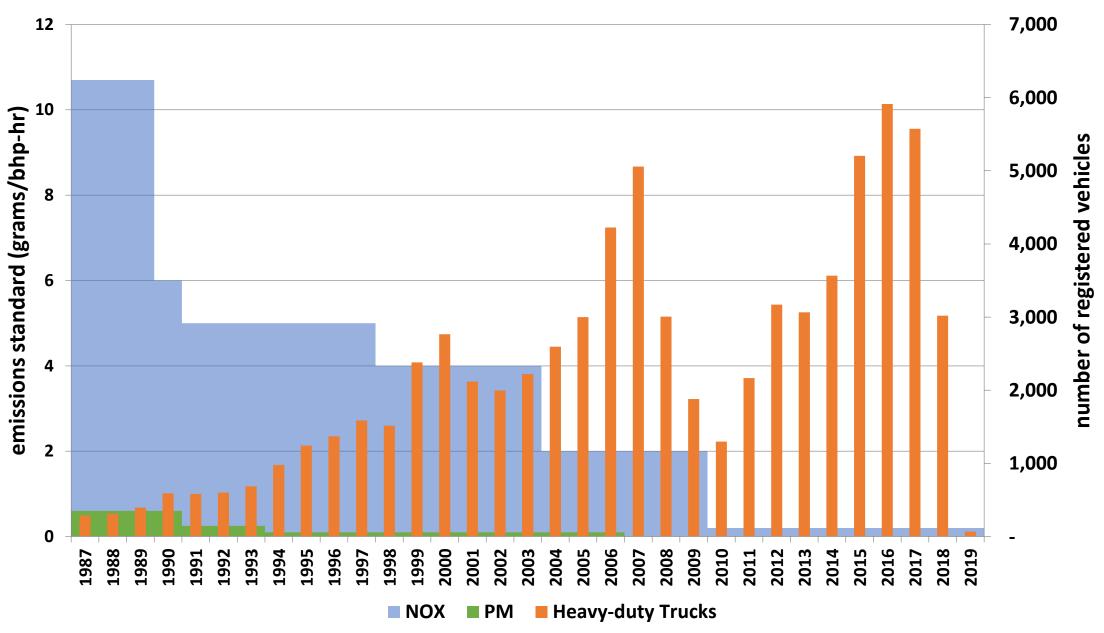
4,685.8 lbs of Combined Emissions

4,580.5 lbs of Combined Emissions

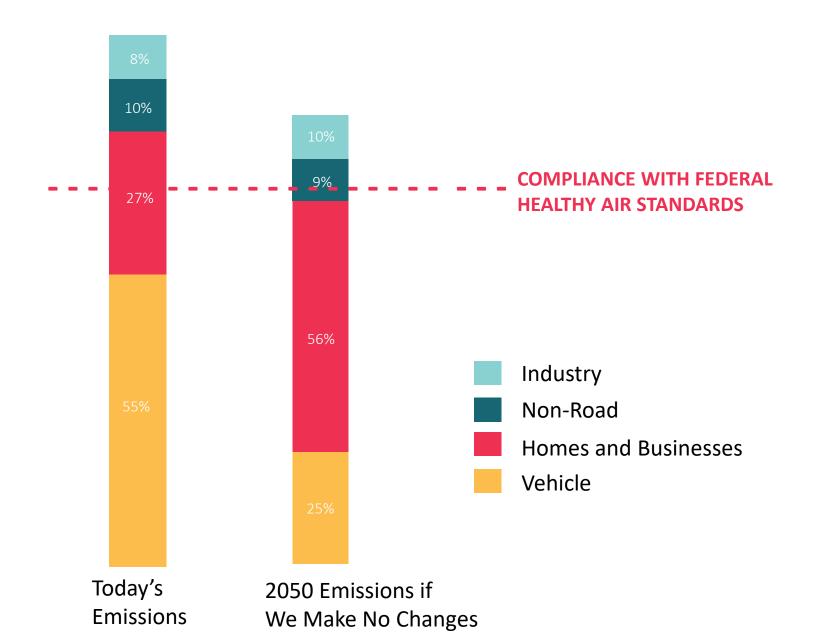
Source: Wasatch Front Regional Council

Note: Emissions calculations are based on an average emissions factor per mile

#### **Utah Heavy-Duty Truck Registrations and EPA Emissions Standards**



### SOURCES OF EMISSIONS



#### The Challenge:

Area Sources will become the largest source of air pollution

### Not IF, but HOW



The regional and statewide flow of goods is leading to growth in this area, but decisions landowners, cities, and the UIPA Board make can influence how it will develop and what impacts it will have.

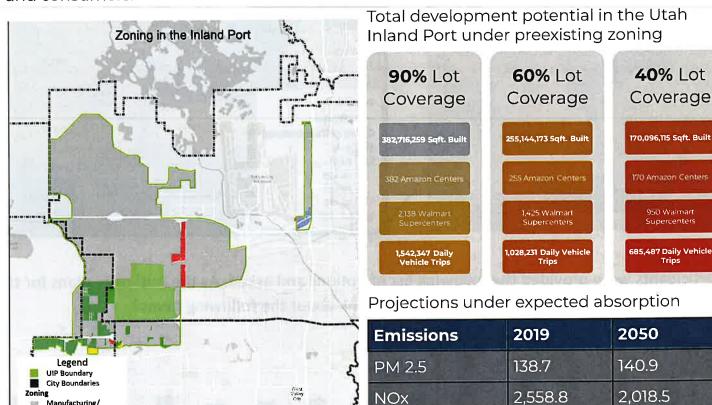
### Conclusion



- Prior planning has identified large areas for preservation and other areas for industrial development.
- Under existing zoning rights, more than 150 million square feet of industrial development could be built in the Inland Port area.
- This will lead to a substantial increase in vehicle trips and miles driven.
- Although vehicles are getting cleaner, the increased driving mileage means area emissions likely will not decrease.
- It's not a question of whether the area will develop, but of how.
- With the currently scheduled process of research and planning, the UIP can drive stakeholders to more efficient transportation models that will reduce overall emissions and create a global example of clean manufacturing and distribution.

### How will northwest Salt Lake County develop?

Utah is known as the "Crossroads of the West" for its excellent connectivity to the entire nation. The Utah Inland Port area sits at the intersection of two interstate freeways, major national railways, and an international airport. This connectivity puts the area at a high demand for warehousing and distribution centers. Projections show that freight tons moving on the nation's transportation network will grow 40 percent in the next three decades while the value of the freight will almost double, increasing by 92 percent. This increase in freight will mean more demand for infrastructure and facilities in Utah. In 2018, the state legislature passed a bill creating the Utah Inland Port Authority in northwest Salt Lake County to help provide better eaccess to international businesses for local businesses and consumers.



#### Key Takeways:

Industrial Open Space

Agriculture Commercial Residential

 Previous planning (by Salt Lake City and others) has identified large areas for preservation and other areas for industrial development.

**VOCs** 

Combined

1,988.3

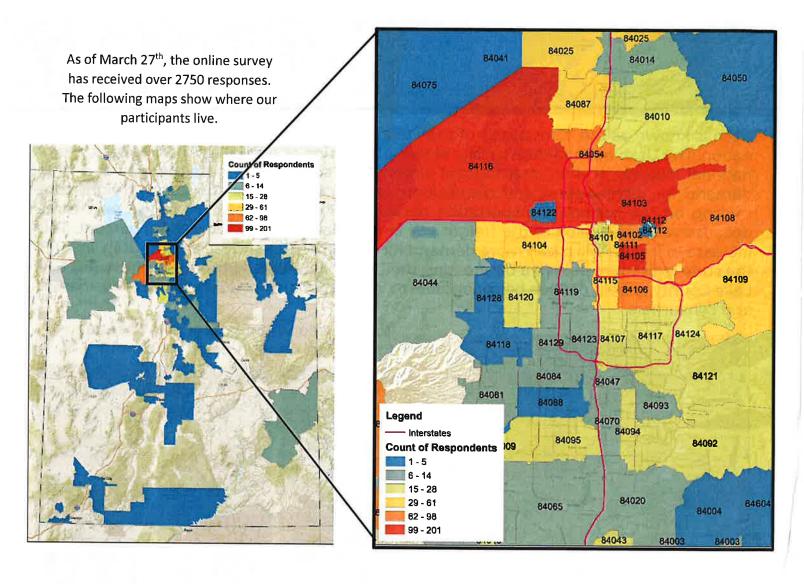
4,685.8

2,421.1

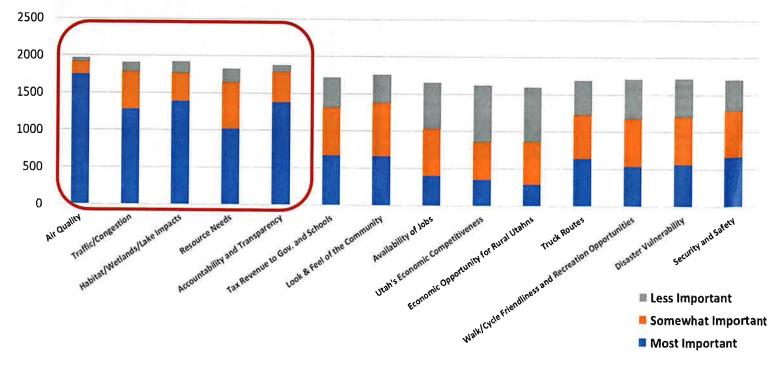
4,580.5

- Under existing zoning rights, more than 150 million square feet of industrial development could be built in the Inland Port Area.
- This will lead to a significant increase in vehicle trips and miles driven.
- Cleaner vehicles and increased travel will counteract to keep emissions steady.
- Proactive planning and policies can support emissions reductions.





Participants were provided the following list of options and asked: As the Authority plans for the area, how important is it to think about the following items?





# UTAH INLAND PORT

Public Outreach Update March 27<sup>th</sup> 2019



### **Public Engagement**

#### **Public Forums**

- State Fairgrounds February 19<sup>th</sup>
- Franklin Elementary School February 28<sup>th</sup>
- Salt Lake County Chambers March 28<sup>th</sup>

### **Stakeholder Meetings:**

- Easton Archery Center March 15<sup>th</sup>
- SLCC Westpointe March 28<sup>th</sup>

# INLAND PORT PUBLIC FORUMS

Come to the Utah Inland Port Authority public forums to learn about the Utah Inland Port and share your voice on how you think we can responsibly maximize the potential of the area.

Your input will help us create a strategic plan for future development of the area. Please share your voice!

**FEBRUARY 28, 2019** 

6 PM - 8 PM

FEBRUARY 19, 2019
6 PM - 8 PM
155 N 500 W
SALT LAKE CITY, UT 84116

FRANKLIN ELEMENTARY SCHOOL 1115 N 300 S SALT LAKE CITY, UT 84104



### Stakeholder Engagement



#### Past meetings and presentations:

- Community Forum on the Inland Port
- SITLA
- Ninagret Development
- Westside Coalition meetings
- West Valley City
- Jordan River Commission
- Salt Lake City Council Briefing
- Public Forum @ Fairgrounds
- Public Forum @ Franklin Elementary
- Friends of the Great Salt Lake
- Magna Township staff
- Magna Township Council
- Colmena
- Salt Lake Garfield & Western
- Stakeholder meeting @ Easton Archery

- South Shore Duck Clubs
- Suazo Business Center
- Utah Div. of Wildlife Resources
- UDEQ (DAQ)
- UCAIR
- UDOT
- Union Pacific Railway
- Wasatch Front Regional Council

# Stakeholder Activity



What do you really want to see happen?	Votes
Preserve water flows and wetland buffer	14
Use rail to reduce truck traffic	10
Opportunities for small and local businesses	9
Increase manufacturing outbound freight	9
Companies with long-term business plans	8
Return unused land to SLC	7
Remediate landfill through tax increment	6
Economic development	4
Reduce rail impacts on Poplar Grove by consolidating rail	4
Incorporate passenger rail	4
Develop workforce to support the vision	3
Mixed-use centers to reduce traffic	2





What do you really want to see happen?	Votes
Bird-friendly building practices	2
Enforcement of policies in the business plan	2
Examine economic trade-offs	2
Environmentally superior design	1
Better communication between Authority and the public	1
Mitigating structures for rail in neighborhoods (sound walls)	0

# Stakeholder Activity



What do you really NOT want to see happen?	Votes
Political Fight	20
"Too many cooks in the kitchen" – disorganized planning	15
Restricting historic uses of wetlands North of I-80	11
Capped Landfill	6
Tax Increment used to facilitate BNSF facility	5
Changed uses in previously developed areas	3

### **Recurring Themes**



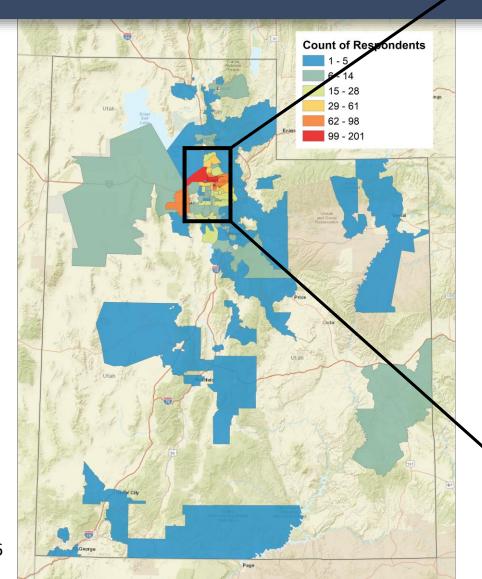
- Air quality and wetlands impacts as the top concerns
- Legacy Parkway truck ban
- Concern over low-paying jobs
- Confusion regarding legislature/legislative process from both initial UIP bill and messaging around SB248 SO2/SO3
- Confusion regarding plans to build north of I-80
- Do not recognize agreements to allow use of tax increment to subsidize infrastructure
- Rail blockage in neighborhoods

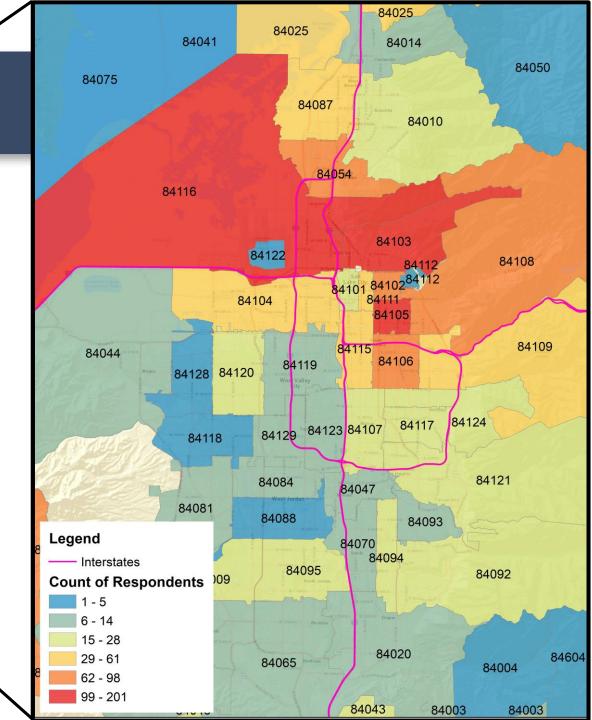
### **Utah Inland Port Survey**



- As of March 26<sup>th</sup>, the Inland Port survey has received 2780 responses.
   Following is a summary of preliminary results.
- The goal of the survey is to identify priorities for research in the scenarios phase.

## Where do you live?

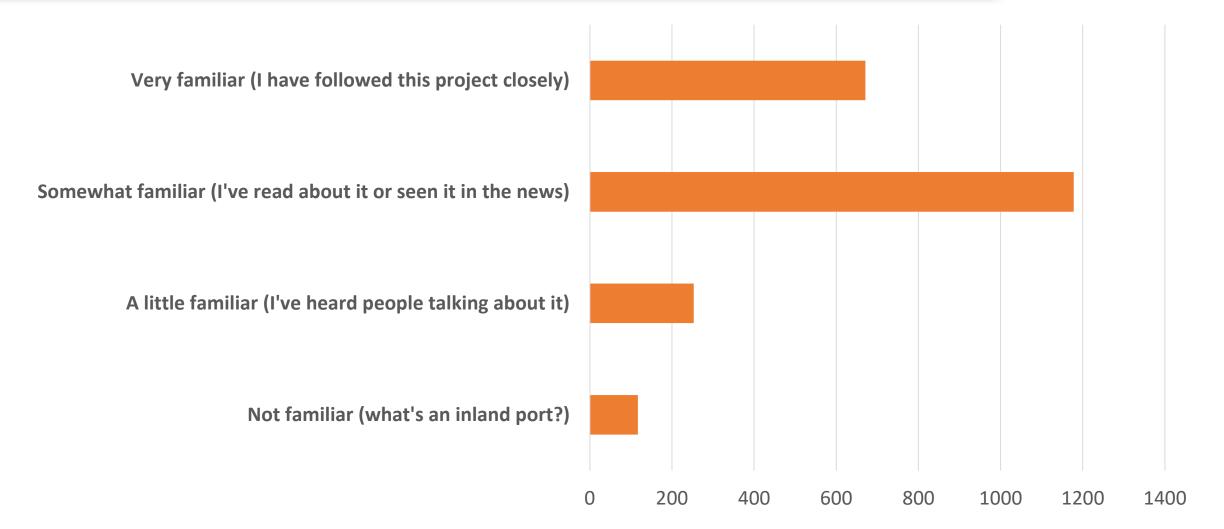




As of 3/26 N = 1,842



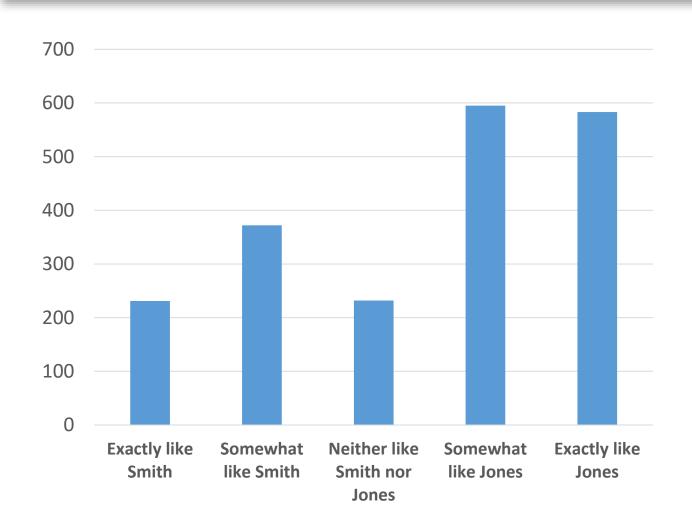




As of 3/26

### Is your opinion more like Smith or Jones?





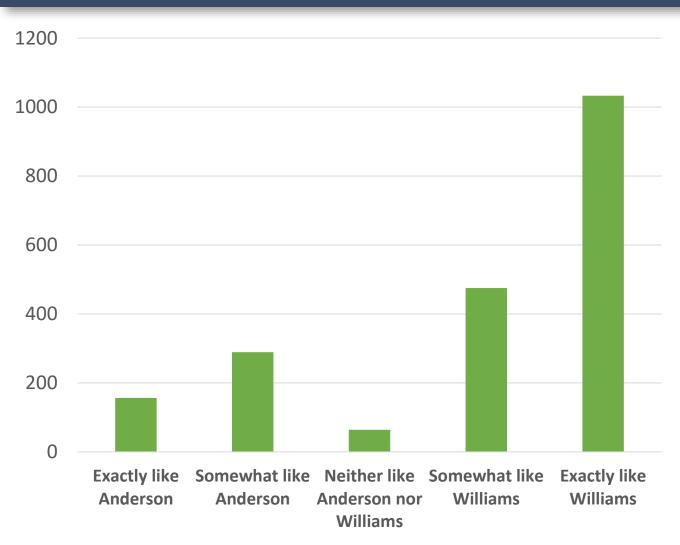
Smith believes that the increased availability of markets and economic opportunity that the inland port will provide will be beneficial to Utah.

Jones believes that the Utah economy is growing quickly enough and does not need the additional stimulus that would come from the inland port.

As of 3/26 N = 2,013

### Is your opinion more like Anderson or Williams?



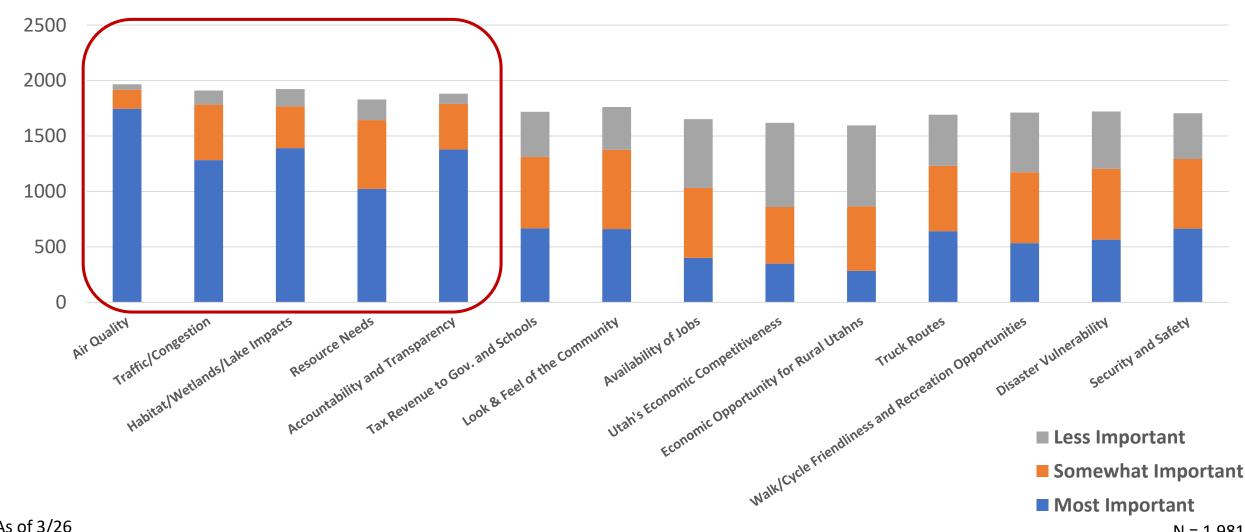


Anderson believes the inland port could be done in a way that mitigates growth-related impacts in the area (air quality, traffic, crowding, etc.).

Williams believes that the inland port will worsen growth related impacts (air quality, traffic, crowding, etc.).

### As the Authority plans for the area, how important is it to think about the following items?





### Importance of Jobs by Income





## **Public Working Groups**



- 1. Air Quality April 8<sup>th</sup>
- 2. Workforce, Education, and Corporate Recruitment April 11<sup>th</sup>
- 3. Environment, Recreation, and Habitat April 16<sup>th</sup>
- 4. Roads, Rail, and Air April 18<sup>th</sup>
- 5. Transportation and Port Technology April 23<sup>rd</sup>
- 6. Satellite Port Development April 25<sup>th</sup>

### **Air Quality**



- Alan Matheson
- Bryce Byrd
- Thom Carter
- Scott Williams/Michael Shay
- Ted Wilson
- Jonny Vasic
- Patrice Arent
- Kerry Kelly
- Ted Knowlton
- Dan England
- Kathy Van Dam

- Nathan Anderson
- Ashley Miller
- Patrick Leary
- Vicki Bennett
- Luz Escamilla
- Ashley Yoder
- Royal Delegge
- Dorothy Owen
- Holmes

### Workforce, Education, & Corporate Recruitment



- Natalie Gochnour
- Nicole Cottle
- Ben Hart
- Theresa Foxely
- Patrick Leary
- Clifton Sanders
- Darin Brush
- Blake Thomas
- Laura Bogusch
- Dan Gelston
- Paul Devine
- Lexi Cunningham

- Martin Bates
- Jon Pierpont
- Ben Stevens
- Shawn Milne
- Barbara Riddle
- Heidi Walker
- Richard Holman
- Steve Thomas
- Todd Bingham
- Angie Osguthorpe

### Environment, Recreation, & Habitat



- Deeda Seeda
- Soren Simonsen
- Lynn De Freitas
- Heather Dove
- Mike Fowlkes
- Alan Matheson
- Ashley Soltysiak
- Tom Adams
- Patrick Leary
- Kevin Johnson
- Rodger Mitchell

- Ann O'Conell
- Laura Vernon
- Beau Clements
- Erica Gaddis
- Andy Hunter
- Janet Robins
- Ella Sorensen
- Ann Neville
- Scott Williams/Michael Shay
- Jack Ray

## **Transportation & Port Technology**



- Dan England
- Rick Clasby
- Ted Knowlton
- Teri Newell
- Clint Harper
- Laura Hanson
- Bill Wyatt
- Paul Devine

- Wilf Sommerkorn
- Stan Fawcett
- Phillip Hoskins
- Dean Dinas

### Roads, Rail, & Air



- Martin Ritter
- Nathan Anderson
- Lindsay Van Meter
- Chris Weesner
- Daniel Kuhn
- Patrick Leary
- Jon Larsen
- Dan England
- Rick Clasby

- Ted Knowlton
- Teri Newell
- Laura Hanson
- Helen Peters
- Bill Wyatt
- Rodger Borgenicht
- Lyle McMillan
- Bob Watters

## **Satellite Port Development**



- Stuart Clason
- John Roake
- Shawn Milne
- Stan Summers
- Scott Barney
- Garth "Tooter" Ogden
- Phillip Hoskins
- Lynn Sitterud

- Tony Martines
- Greg Schultz
- Josh Romney
- Lance Bolen
- Nate Boyer
- Steve Price
- Betty Parker

## Scenario Development w/ CPCS



1

No Action by the Inland Port Authority

2

?

3

?

4

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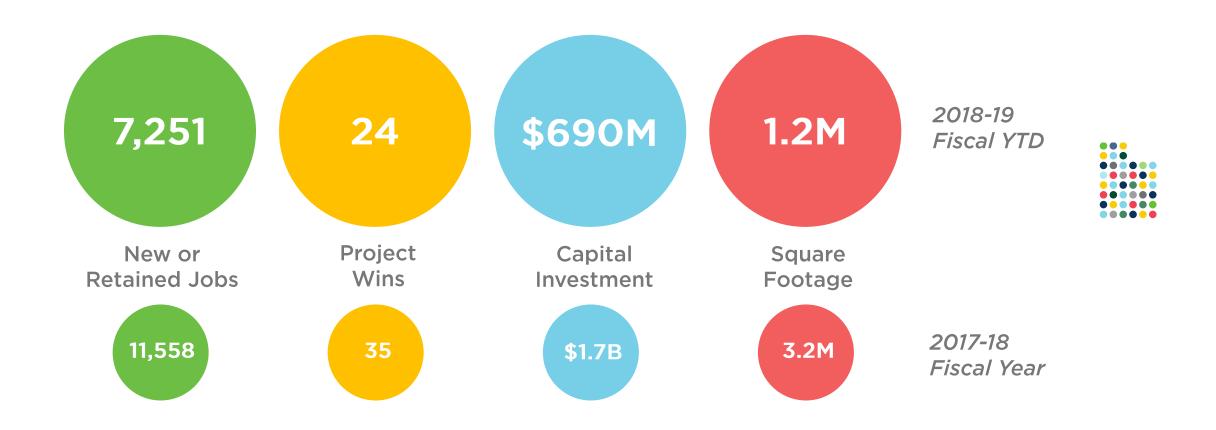
### **EDCUtah Overview**

- Private, non-profit organization founded in 1987.
- Catalyst for quality job growth and increased capital investment.
- Specialize in corporate recruitment, economic research, site selector marketing and community development.

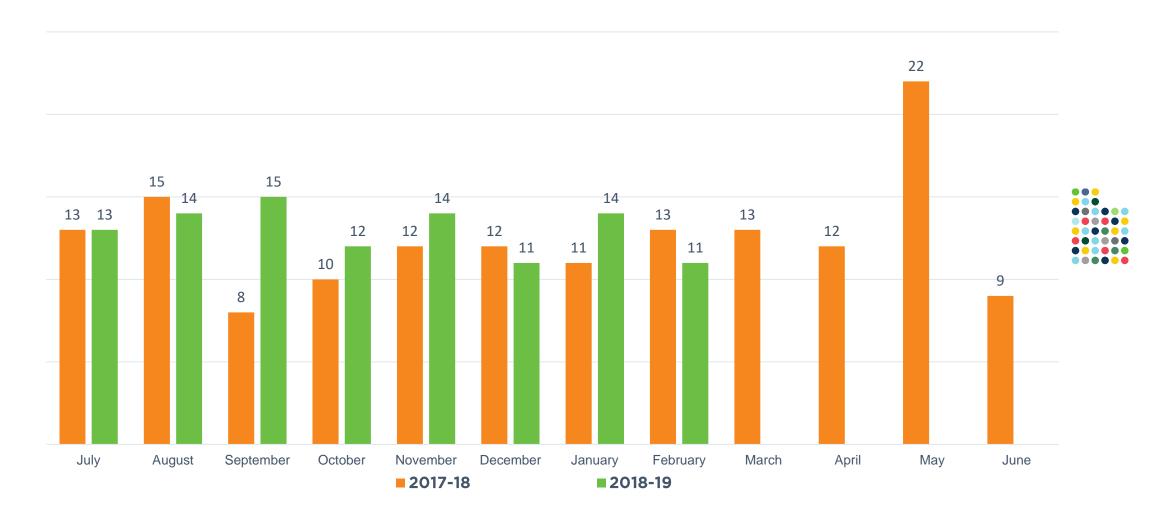


 Supported by state government (GOED), local governments, and organizations from the private sector.

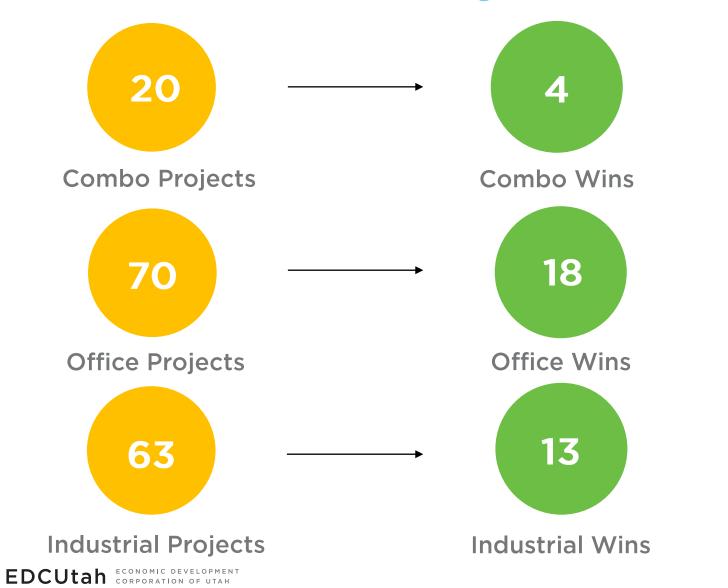
### **Key Performance Indicators**



## New Project Starts, YTD (+10)



### **FY17-18 Generated Projects & Wins**

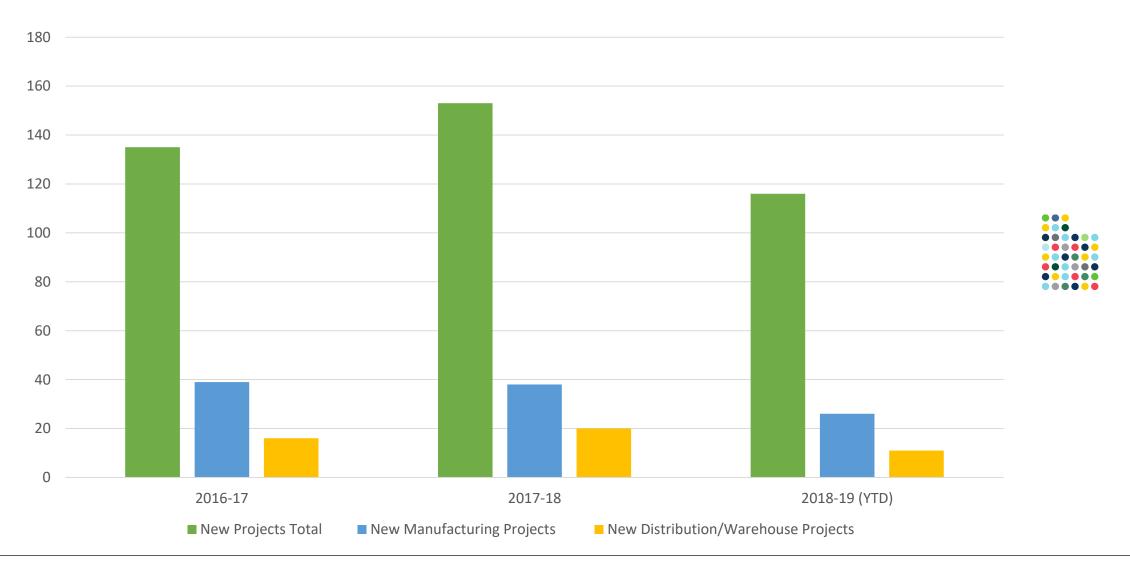




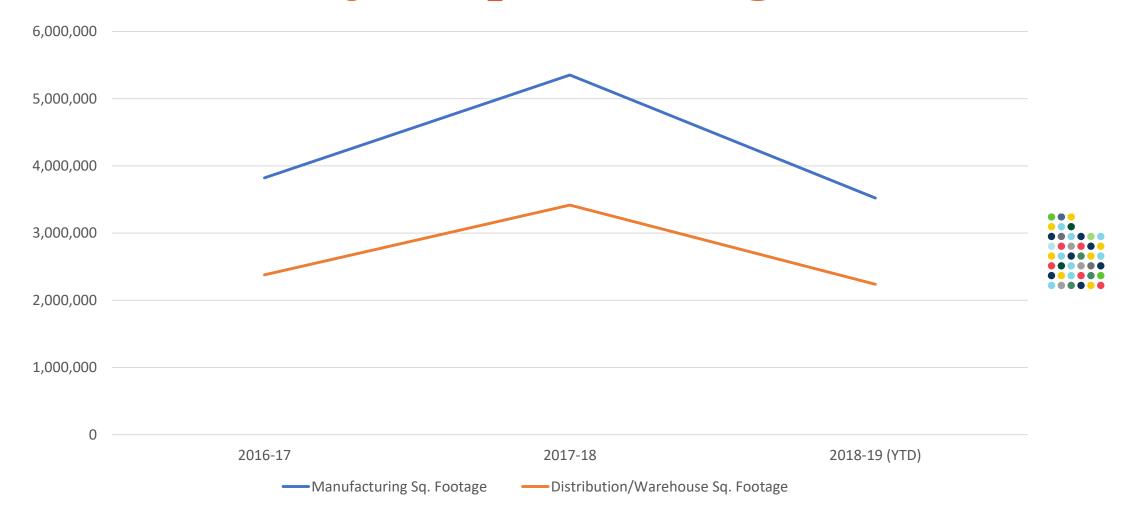
# **Trends**



### **Incoming New Project Trends**



### **Cumulative Project Square Footage Trends**



\*We only know the amount of acreage for some projects, so the square footage number is an underrepresentation of total amount of potential new development.

### **Industrial Project Trends**

- 43% of current active projects can be classified as industrial
  - Avg. square footage requirement is 148,000 sq. ft.
  - Median square footage requirement is 80,000 sq. ft. (a handful of large projects skew the average)
- Strong interest in property ownership
- Roughly 1/3 of industrial projects are interested in rail service scarcity of direct rail-served properties



## **Marketing**

- Know the Customer
- Site Selector
- Industry
- Mega Sites







# MANUFACTURING YOUTH APPRENTICESHIP PROGRAM PILOT

**STADLER** 



### INTRODUCTIONS

### THERESA MBAKU MEGAN WARE

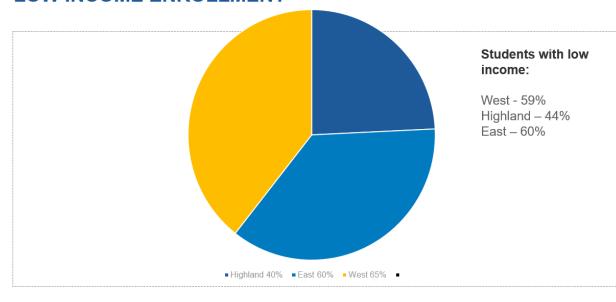




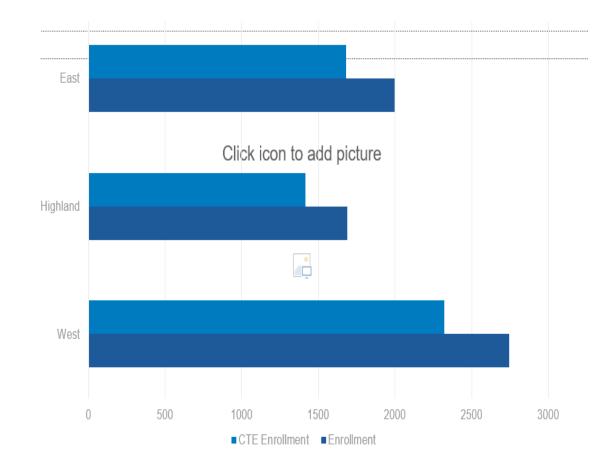


\* Who are our students?

### MINORITY ENROLLMENT – BELOW THE PIE CHART LOW INCOME ENROLLMENT







How is CTE is an integral part of student learning in our District?

How will students in the SLCSD benefit from the YAP?



#### Utah CTE Career PATHWAYS

#### **Pathways to College & Career Readiness**

#### School Year 2019-2020



#### Career Cluster®

> Career Pathway

#### **Agriculture, Food & Natural Resources**

- > Agricultural Mechanics Systems
- > Agricultural Production Systems
- > Animal & Veterinary Science
- > Food Science, Dietetics & Nutrition
- > Natural Resource Science
- > Plant Science

#### Architecture & Construction

- > CAD Architectural Design
- > Interior Design

Construction & Structural Systems

- > Carpentry
- > Electrical
- > Plumbing

#### Arts, Audio/Visual Technology & Communications

> Fashion, Apparel & Textiles

#### Broadcasting

- > Audio/Visual Production Professional
- > Broadcasting Professional

#### Graphic Design & Communication

- > Commercial Art
- > Commercial Photography
- > Digital Media
- > Graphics Printing

#### **Business, Finance & Marketing**

- > Accounting & Financial Operations
- > Customer Service & Management
- > Entrepreneurship
- > Office/Administrative Support
- > Marketing & Sales

#### **Education & Training**

- > Pre-K: Early Childhood Education
- > K-12: Teaching as a Profession

#### **Engineering & Technology**

- > Aerospace Engineering
- > CAD Mechanical Design
- > Electrical Engineering
- > Manufacturing Engineering
- > Materials Science
- > Mechanical Engineering
- > Robotics

#### **Health Science**

- > Emergency Medical Services
- > Nursing Services

#### Clinical Laboratory Science

- > Biotechnology
- > Medical Forensics

#### Therapeutic Clinical Services

- > Dental Assistant
- > Exercise Science/Sports Medicine
- > Medical Assistant
- > Pharmacy Technician

#### Hospitality & Tourism

- > Culinary Arts
- > Hospitality & Tourism

#### **Human Services**

> Community, Family & Social Services

#### Personal Services

- > Cosmetology/Barbering
- > Esthetician/Nail Technician

#### Information Technology

- > Cybersecurity
- > Information Technology Systems
- > Programming & Software Development
- > Web Development

#### Law, Public Safety, Corrections & Security

#### Public Safety & Law Enforcement

> Protective Services

#### Manufacturing

- > Aerospace Manufacturing
- > Medical Innovations
- > Welding

#### Advanced Manufacturing

- > Cabinetmaking/Millwork
- > Machine Tool

#### **Transportation, Distribution & Logistics**

- > Aviation
- > Aviation Maintenance Technology
- > Diesel

#### Automotive

- > Collision Repair
- > Service Technician

### MANUFACTURING PATHWAY/ WELDING CLUSTER

### WELDING AT HIGHLAND HIGH SCHOOL



Ms. Denise Hevner

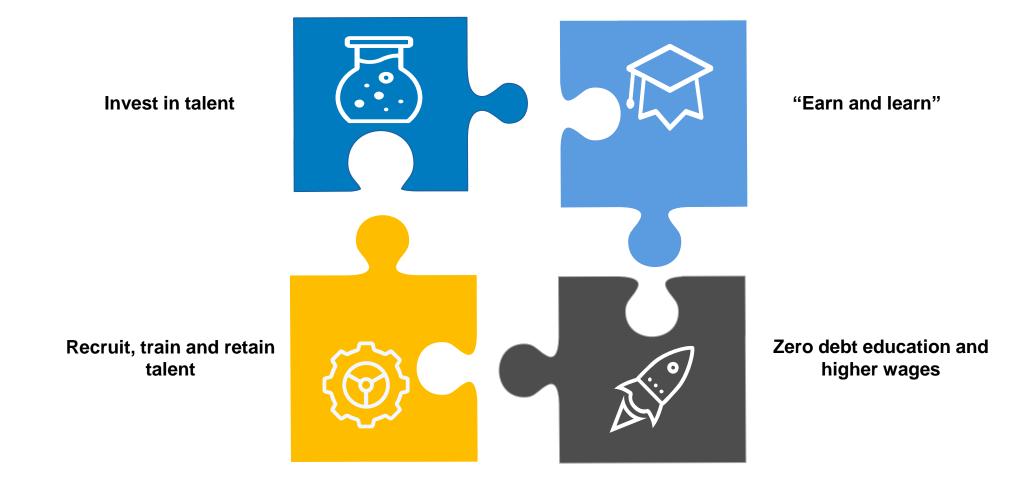
As an 18 year old, Denise was strong-willed and confident. She discovered welding at the CT and became so fascinated that she put her plans on hold to become a surgeon. After high school, Denise started out as a welder for Aero Tech Mfg. In Spring 2001, she enrolled at SLCC working full time and attending school part time for two years. During that time, she learned more and more welding, fabricating, reading blueprints and began to specialize in precision based TIG welding.



Stadler, Praxair, Aluma Steel, CCI Mechanical, DATC, Ironworkers 27, Lincoln Electric, Mountain States Steel, National Welding Corp, Norco, Shaw Naptec, SLCC Welding, SME Steel Contractors, UA Local 140, United States Welding, Utah Career Center, WSU Manufacturing

# STADLER

### **OUR VISION**



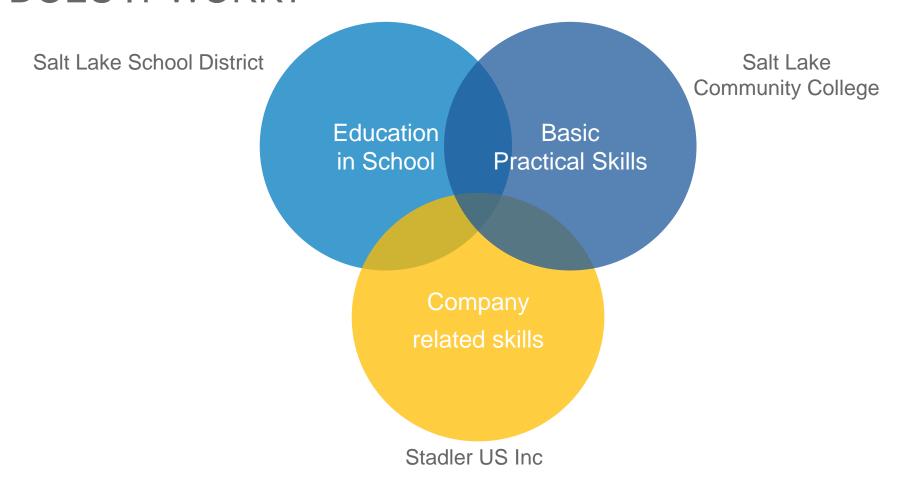
We are with you along the way and offer guidance throughout the journey - all while earning a wage and stackable credentials

# THE COLLABORATIVE PARTNERS ROLES AND RESPONSIBILITIES



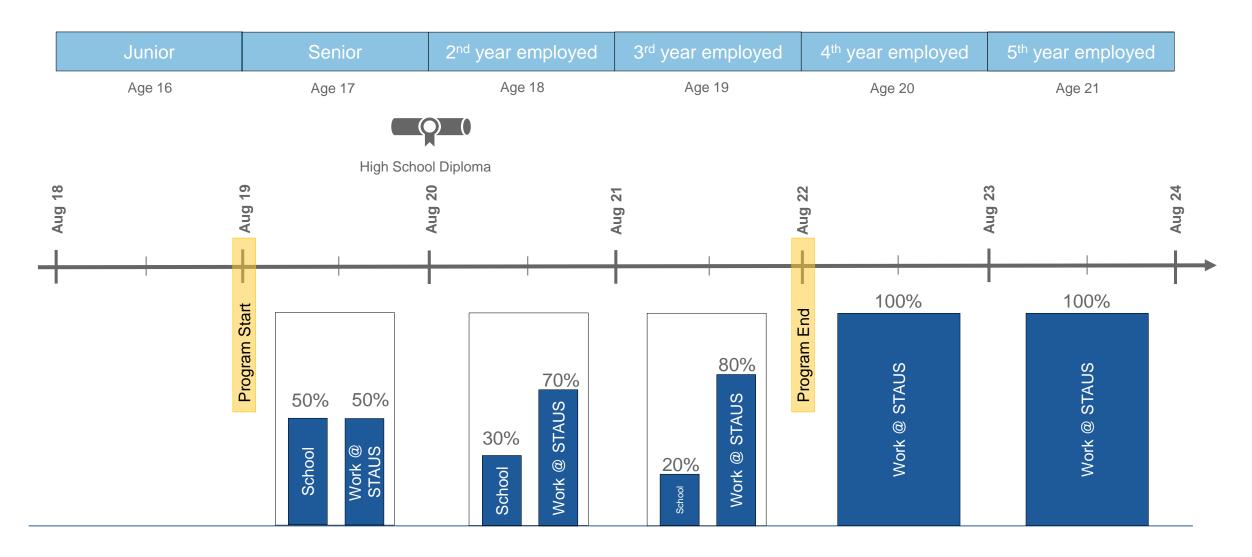
Theoretical and applied lectures, as well as on-the-job training, ensure professional training with a transferrable skill set

# THE APPROACH HOW DOES IT WORK?



Different parties collaborating to ensure a comprehensive education

# PROGRAM SCHEDULE PROGRAM START IN SENIOR YEAR



# **COURSE STRUCTURE**EDUCATION CONTENT

	Automatic Technician				Production Technician			
	School (applied lectures)	School (theoretical lectures)	Stadler		School (applied lectures)	School (theoretical lectures)	Stadler	
Year 1	Manually process and check workpieces Install and Wire Apparatus & Components Controls & Components Measure & Check	Mathematics Physics Electrical Engineering Materials Technology Drawing Technology Standards & Apparatus	Introductory Tasks		Measure and check workpieces Manually produce workpieces Add components (welding & riveting) Rotate Milling	Mathematics & Physics Materials Technology Drawing technology Connection, production, and machine technology	Introductory Tasks	
Year 2			Supplementary Training*  1-2 selectable projects of focus training** Final Project	Integration in Production			Supplementary Training*  1-2 selectable	Integration in Production
Year 3							projects of focus training** Final Project	

*Supplementary Training	*Supplementary Training			
Electric control  Maintain and repair electrical equipment	Mechanical assembly and pneumatics  Joining (welding / riveting)			
**Focus Training	**Focus Training Produce welded constructions			
Build electrical control	Assemble modules and machines and carry out final acceptance Finishing workpieces using the Joining Technique			

### **QUESTIONS & ANSWERS**



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