

Sustainable Infrastructure and South Mountain Village: Land Use and Transit Oriented Development

COURSE PROJECT
PRESENTATION

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Tari Alford
Hanan Alhashmi
Aric Burks
Matt Gomez
Matthew Waldman



SPRING 2018 COURSE

Urban Infrastructure Anatomy and Sustainable Development

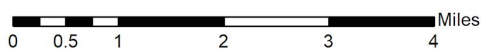
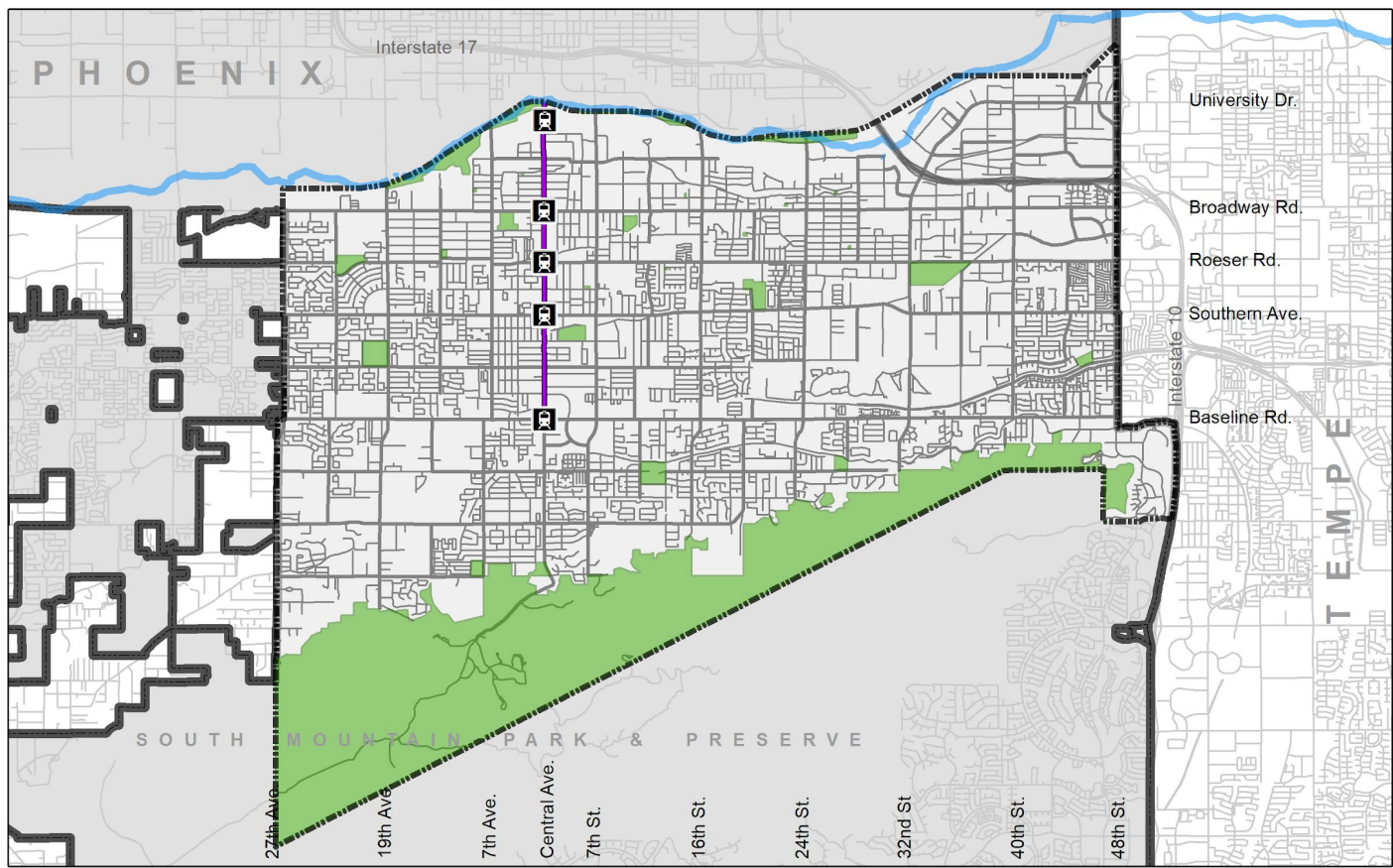
CEE 507 • SOS 547 • PUP 553

Problem Statement/Overview

- Low Connectivity, Biodiversity, and Shade Coverage
- Significant Population of Low Income Minorities
- Urban Heat Island
- Vacant/Underutilized Lots
- Large Industrial Lots

Methods

South Central Light Rail Extension

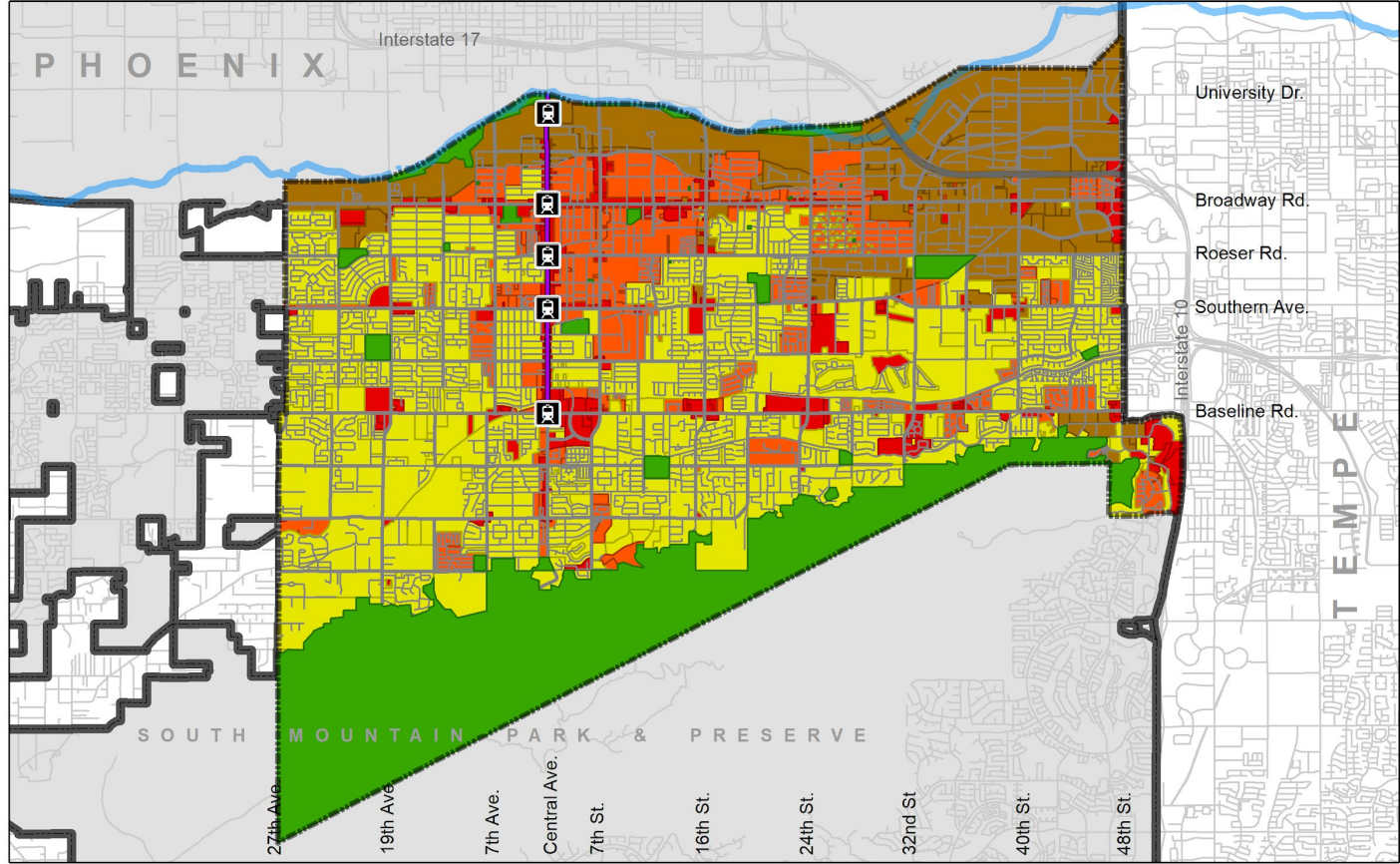


Sources: City of Phoenix Open Data Mapping Portal
US Census Bureau TIGER/Line Shapefiles 2017

Legend

-  Proposed Light Rail Stops
-  South Central Light Rail Extension
-  Salt River
-  City Parks and Preserves
-  Streets
-  Interstate 10
-  South Mountain Urban Village
-  City of Phoenix

South Central Light Rail Extension

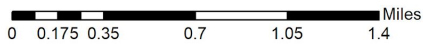


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US Census Bureau TIGER/Line Shapefiles 2017

Zoning		Legend	
	Commercial		Proposed Light Rail Stops
	Industrial		South Central Light Rail Extension
	Multifamily Residential		Salt River
	Single Family Residential		City Parks and Preserves
			Streets
			Interstate 10
			South Mountain Urban Village
			City of Phoenix






Study Area Map

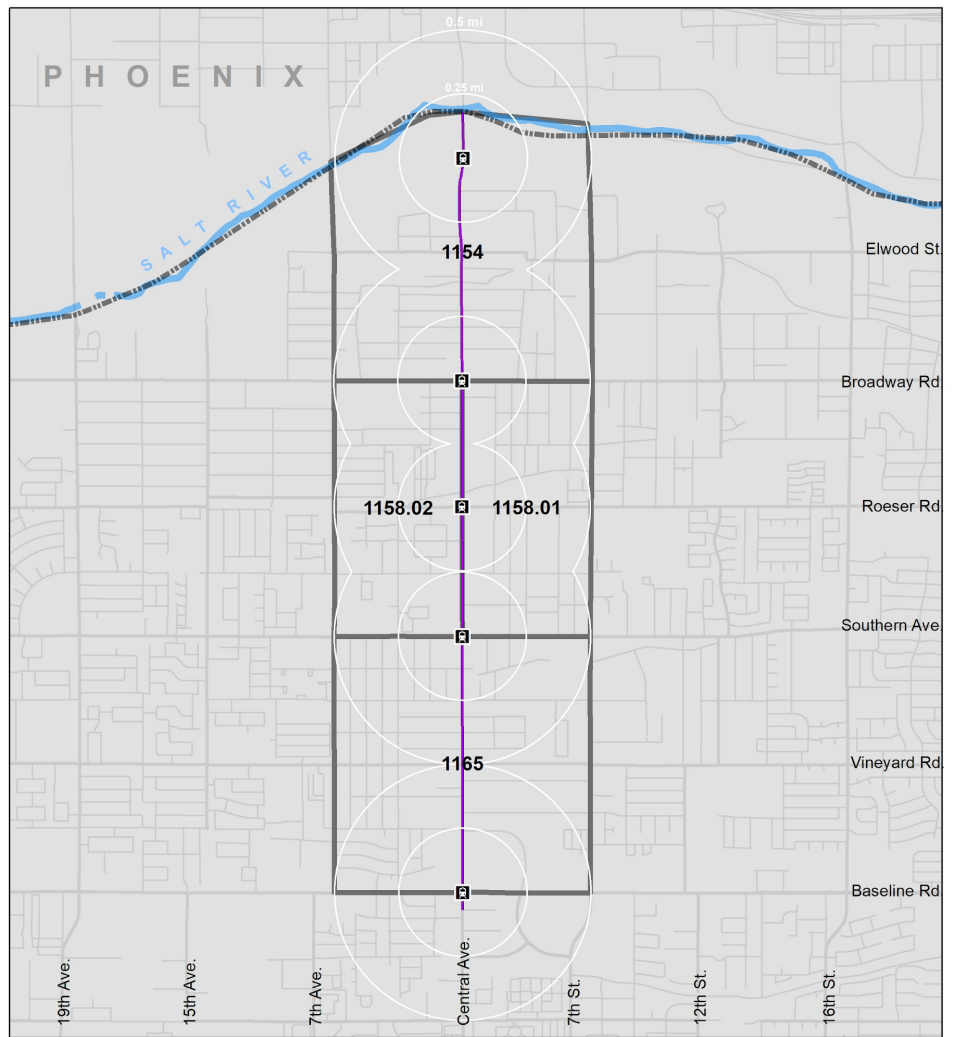
- Census Tracts
 - 1154
 - 1158.01
 - 1158.02
 - 1165
- Total Population: 16,507



 Census Tracts

Legend

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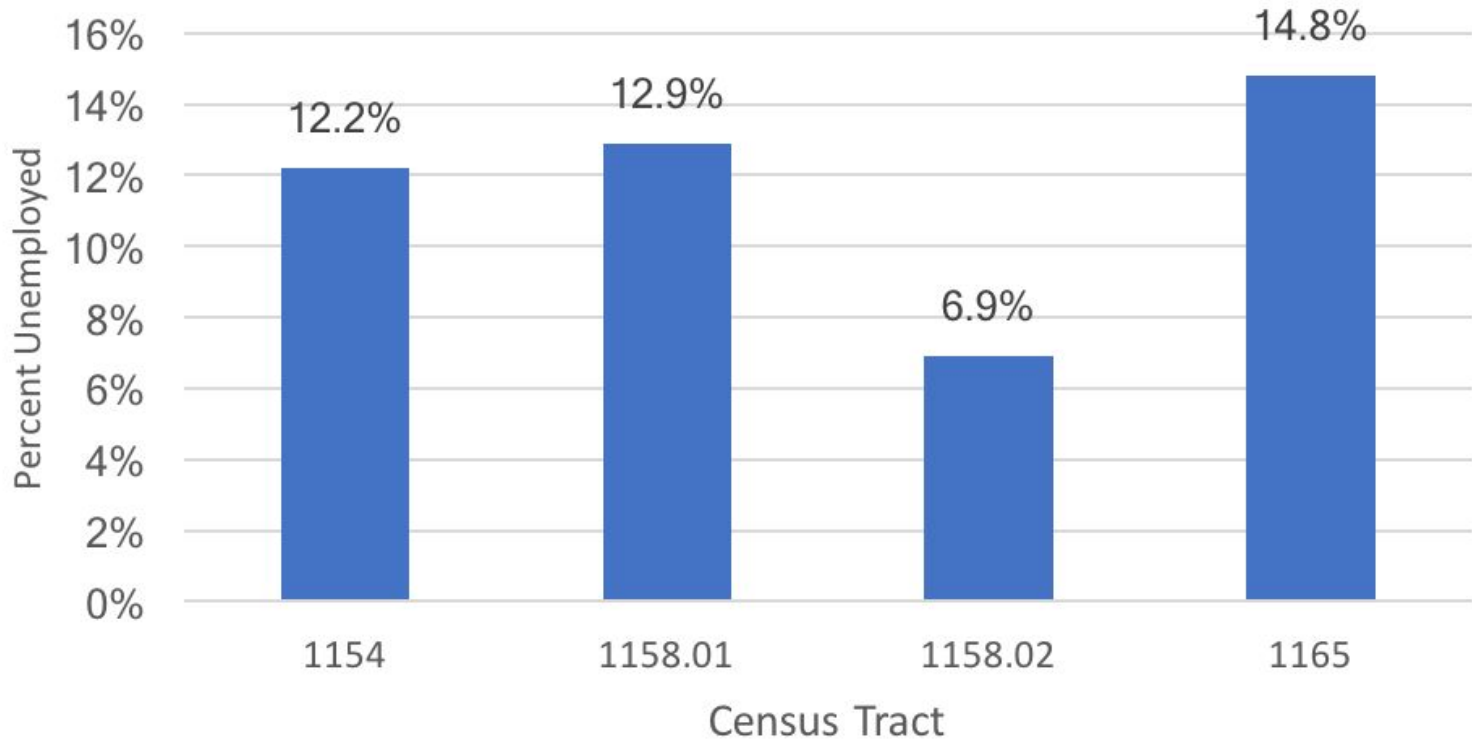


Demographics

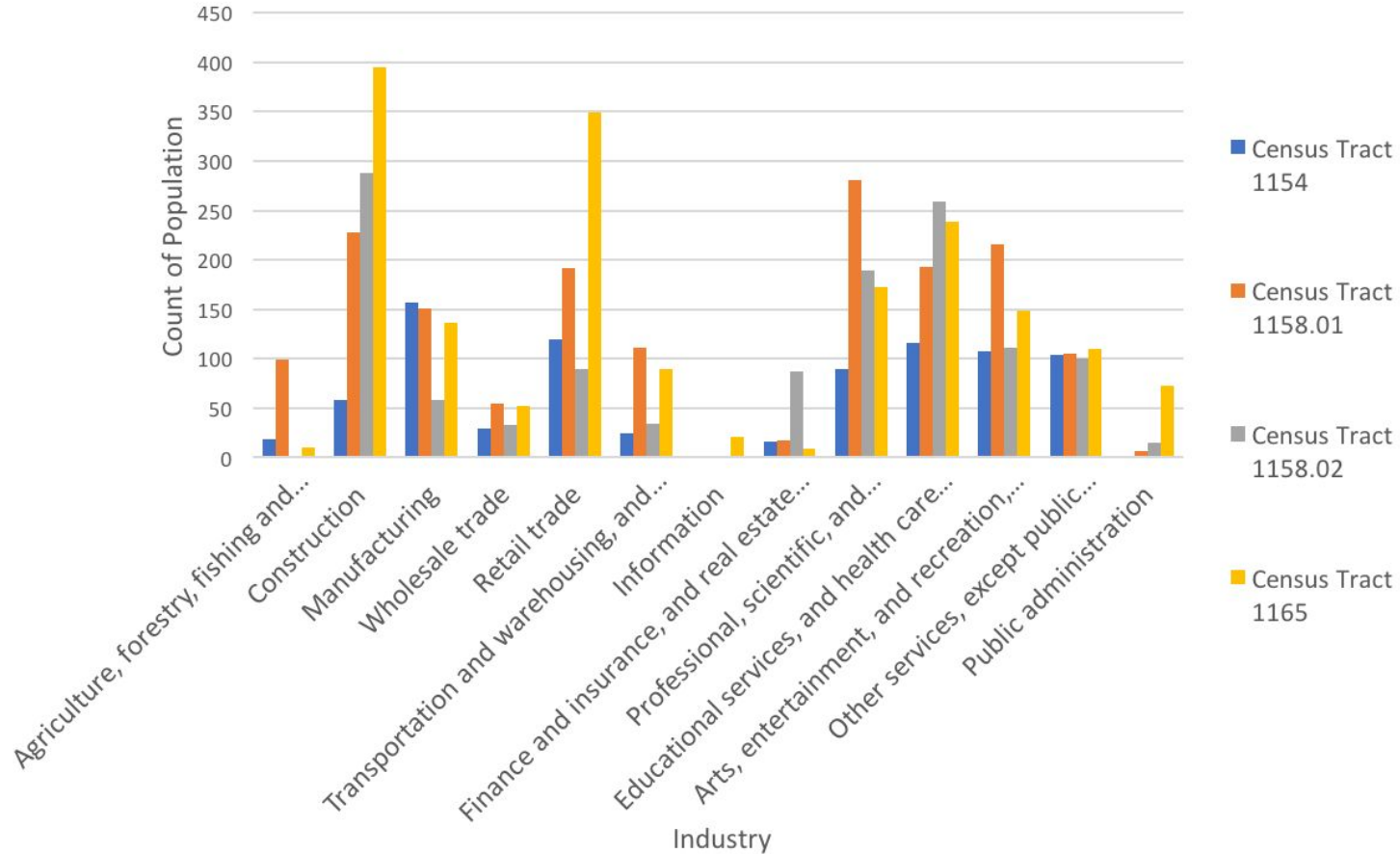
Demographic Snapshot

	Census Tract 1154	Census Tract 1158.01	Census Tract 1158.02	Census Tract 1165	Census Tracts Total:
Population	2,445	4,539	3,746	5,777	16,507
Median age (years)	27.5	25	31.7	28.3	
Hispanic or Latino (of any race)	2,067	3,724	2,884	5,296	13,971
Median household income (dollars)	29,688	25,234	27,075	34,231	
Unemployment Rate	12.2%	12.9%	6.9%	14.8%	
Percent People Whose Income in the past 12 Months is Below the Poverty Level	40.2%	48.2%	38.7%	35.7%	

Unemployment Rate Along the South Central Light Rail Extension



Industry of Employment Along the South Central Light Rail Extension



Site Visit

CITY OF PHOENIX PROPERTY
NO TRESPASSING
CITY ORDINANCE 23-8501-B





BIKE LANE

Sals'as
DRIVE-THRU
Open 24 Hrs.

99¢

LIQUORS

RASPADOS

Raspa

CELLULAR

WALLS

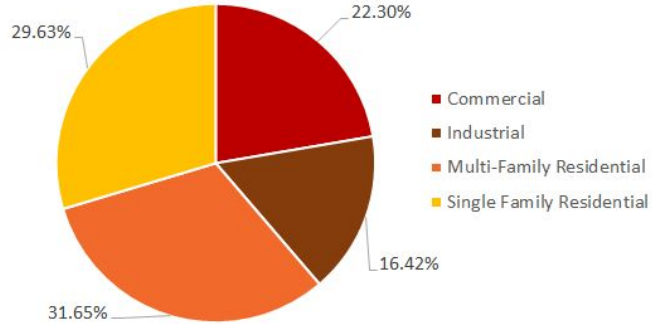
Big Green Bikes



Zoning and Land Use

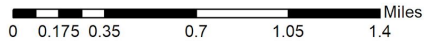
Study Area Zoning Map

South Central Light Rail Extension
Walking Radii Zoning Percentages by Acreage

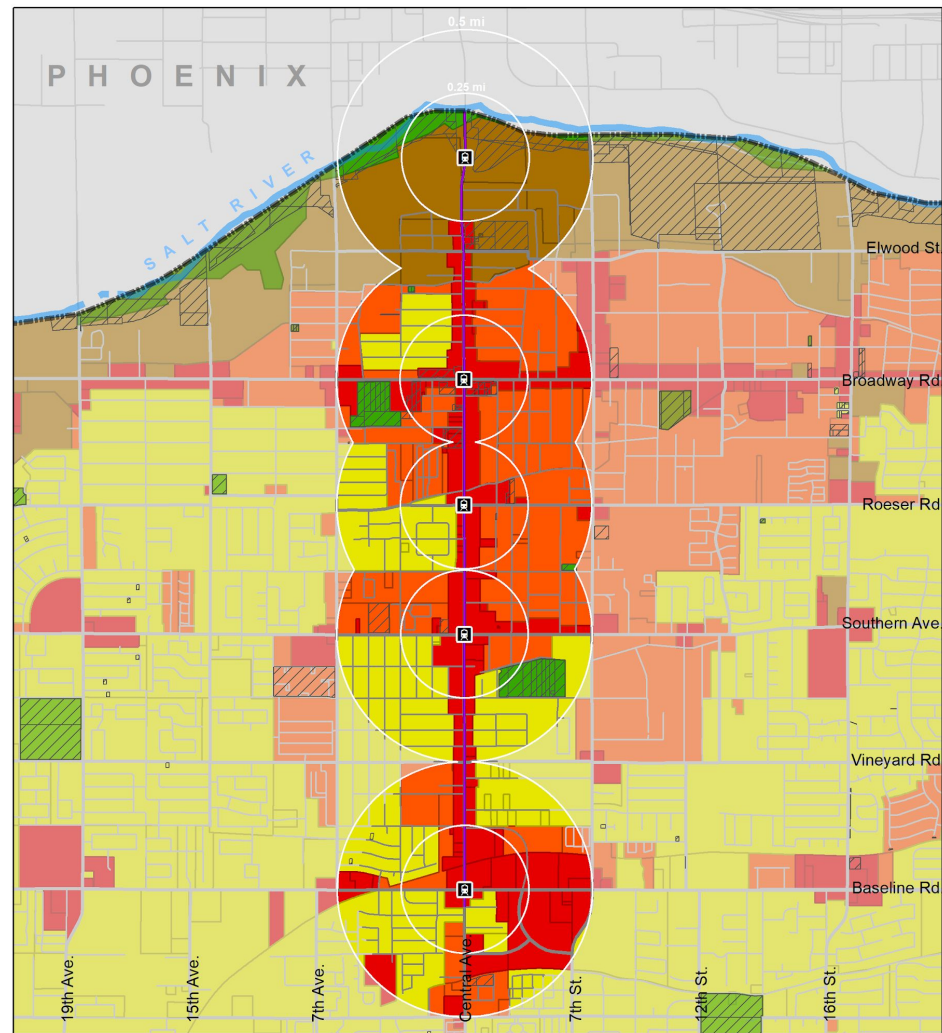


Legend

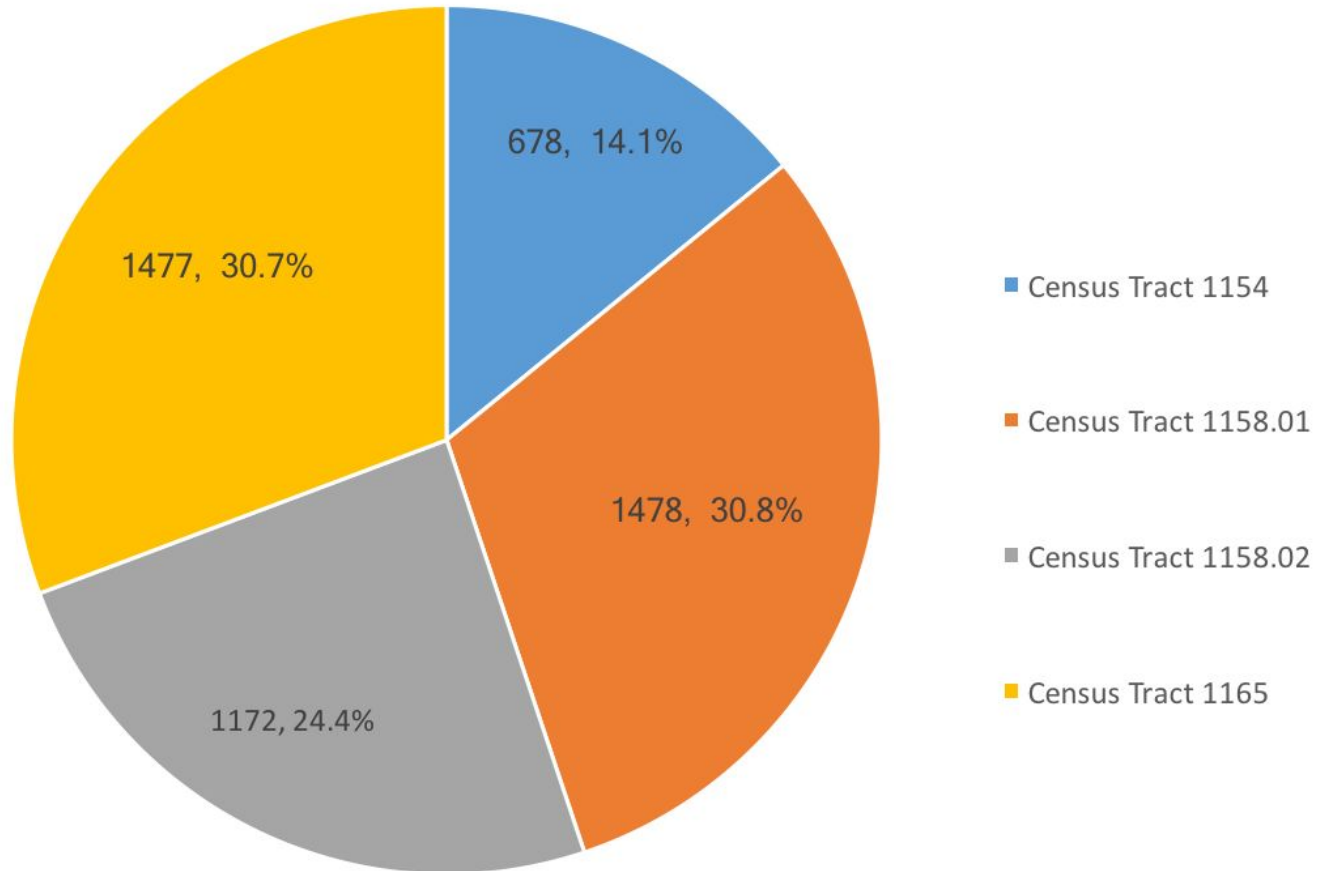
- | | | |
|---------------------------|------------------------------------|------------------------------|
| Commercial | Proposed Light Rail Stops | Streets |
| Industrial | South Central Light Rail Extension | City Owned Parcels |
| Multifamily Residential | Salt River | South Mountain Urban Village |
| Single Family Residential | City Parks and Preserves | City of Phoenix |









Sources: City of Phoenix Open Data Mapping Portal
US Census Bureau TIGER/Line Shapefiles 2017



Total Housing Unit Estimates by Census Tract

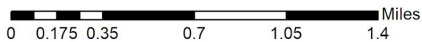


Community Assets Map

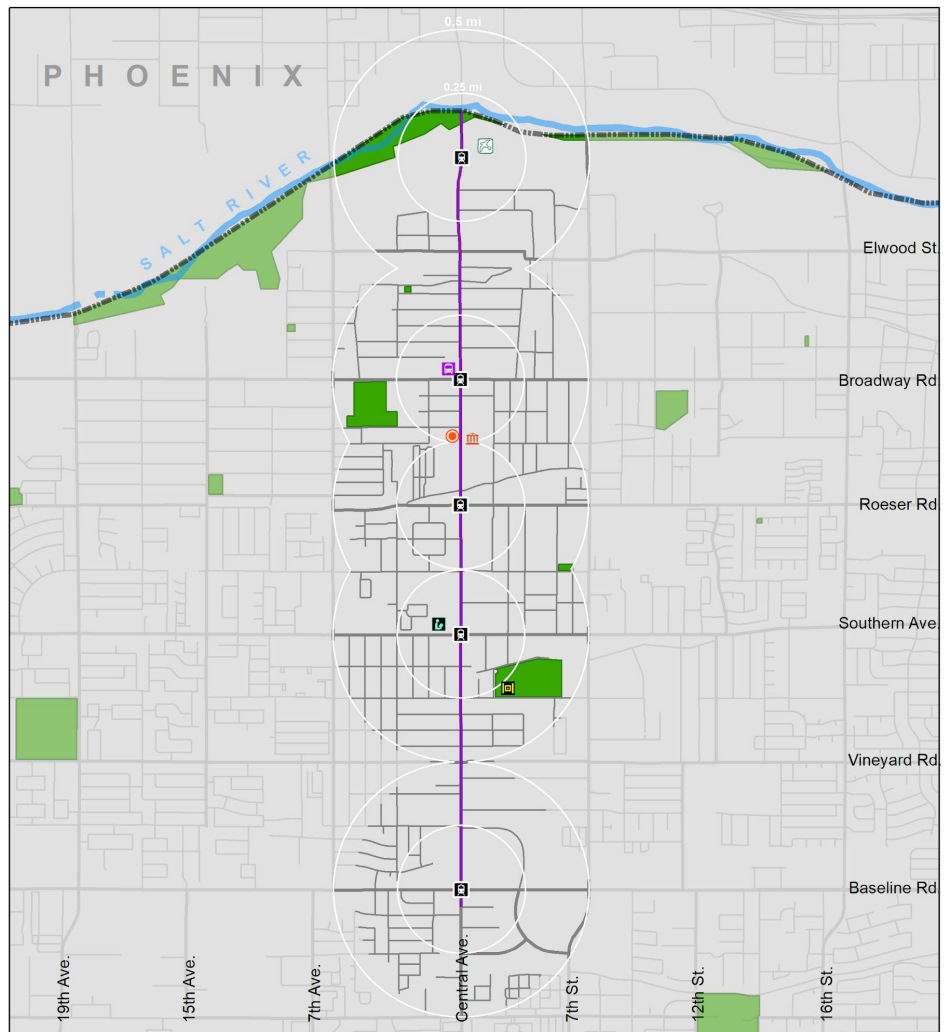
-  Nina Mason Pulliam Rio Salado Audubon Center
-  Ed Pastor Transit Center
-  Travis L. Williams Family Services Center
-  AZ Department of Economic Security
-  South Mountain Community Center
-  Ocotillo Library

Legend

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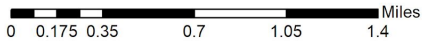


Infill Development District and Areas

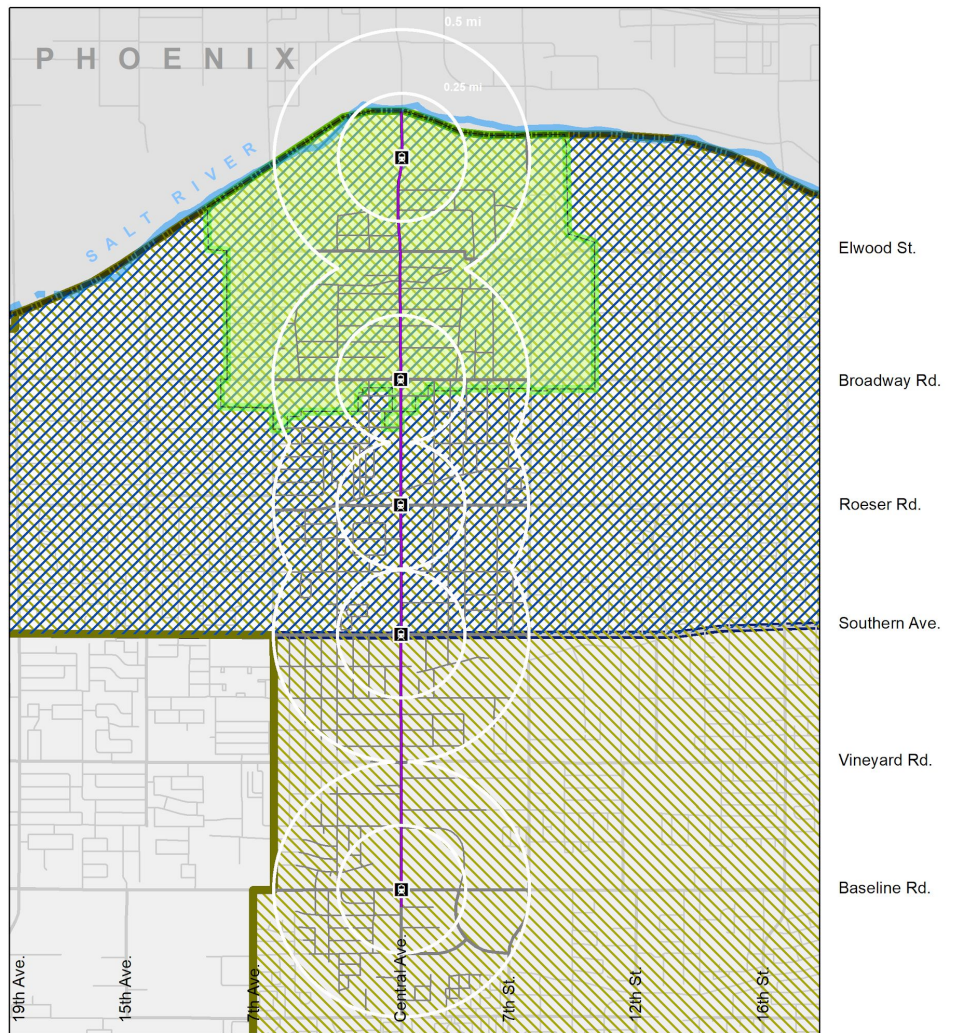
-  Infill Development District
-  Housing Infill Development Area
-  Single Family Attached Allowable Development Area

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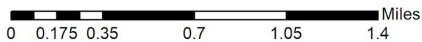


Opportunities for Future Development

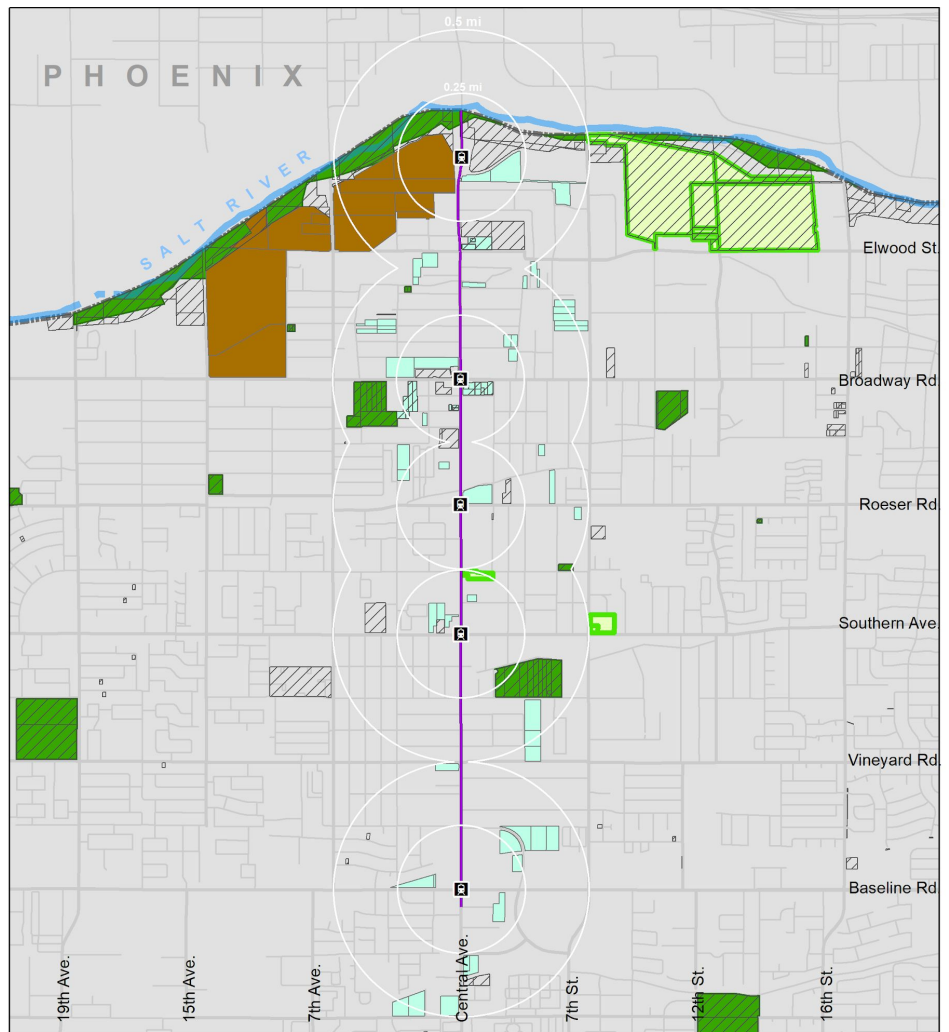
- Del Rio Landfill RFP
- UMOM Development
 - 90 Units
- Sunland Senior Living
 - 80 Units

Legend

- | | | | | | |
|---|-----------------------------|---|------------------------------------|---|------------------------------|
|  | City Owned Parcels |  | Proposed Light Rail Stops |  | Streets |
|  | Planned Development |  | South Central Light Rail Extension |  | South Mountain Urban Village |
|  | Del Rio Landfill Active RFP |  | Salt River |  | City of Phoenix |
|  | City Parks and Preserves |  | Vacant Parcels |  | Landfill/Quarry Parcels |



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Case Studies

Fruitvale Village | Oakland, CA

- \$100 Million Mixed Used TOD
- 47 housing units (including 10 affordable)
- Community services for seniors and youth
- Head Start Center, Pediatric Clinic, Union Office, Small Businesses/eateries, Charter High School, and Weekly Farmer's Market
- Rents still increased but so did home ownership, high school graduates and household incomes
- Future Growth:
 - 94 unit affordable/181 market rate units



HEALU Network | Los Angeles, CA

Created by the Prevention Institute to promote healthy, equitable and active land use and supports initiatives to strategically:

- Increase the percentage of public capital invested in health-promoting infrastructure and resilience factors associated to violence in low-income communities
- Build governmental and community centered organizations for robust community and Civic engagement in land use planning and policy making
- Accelerate land use innovations and pilot projects within low income communities
- Foster cross government collaboration to embed health and equity in all land use decisions

Edison-Eastlake CNI | Phoenix, AZ

- US Department of Housing and Urban Development
 - Choice Neighborhoods Initiative
- 2016 Choice Neighborhoods Planning and Action Grant
 - Transform distressed neighborhoods and public housing into mixed-income neighborhoods linking housing improvements with appropriate services, schools, public assets, transportation, and access to jobs
 - Core Goals:
 - Housing- Quality/mixed income
 - People- Educational outcomes and intergenerational mobility
 - Neighborhood- Public and Private reinvestment

ReinventPHX | Phoenix, AZ

- Collaborative Partnership between City of Phoenix, HUD, Vitalyst Health Foundation, ASU, Valley Metro, and many other organizations for community based vision for improving quality of life along the light rail corridor
- Started in 2012
 - TOD Districts Identified
 - Gateway, Eastlake - Garfield, Midtown, Uptown, Solano
- 2015 City Council adopts Walkable Urban (WU) Code for Downtown Core
 - Increase population and employment through infill development
 - Mix of land uses
 - Provide a walkable, bikeable and transit supportive development environment

Urban Heat Islands for Agricultural Opportunities

Urban regions to experience longer warm seasons and higher temperatures, in comparison to rural areas as a resultant of the material properties of the buildings and the UHI.

- A study in Toronto found potential in growing warmer-climatic crops within an urban region through the combined usage of Green Infrastructure and urban agriculture
- Planners should utilize urban agriculture practices in the form of aquaponics, vegetated roofs, hydroponics and greenhouses in the hottest and most uncomfortable places for food production.
- Urban Agriculture and Green Infrastructure integration in Phoenix has the ability to reduce air pollution, improve food security and allows for run off collection

Recommendations

- Expand Infill Development District down to Baseline Road between 7th Avenue and 7th Street
- Expand Reinvent Phoenix and adopt TOD overlays for the South Central Extension
 - Community based vision for development
- Promote Sustainable development in vacant lots that fulfill gaps in community needs
- Adopt Sustainable Development Design Guidelines
- Utilize GPLET for inclusion of affordable housing
- Leverage City owned parcels for quality TOD in the RFP process

Questions