URBANSDK

SE 1st Street Mobility Summary

City of Boynton Beach

July 4, 2023

Community Planning Simplified

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Introduction

This memo summarizes Speed, Volume, Road Fatality, Census, and Land Use data for the City of Boynton Beach, with a focus on the SE 1st Street corridor. The intent is to provide insights into the potential benefits of the corridor's proposed complete streets improvements to the surrounding community.

Purpose

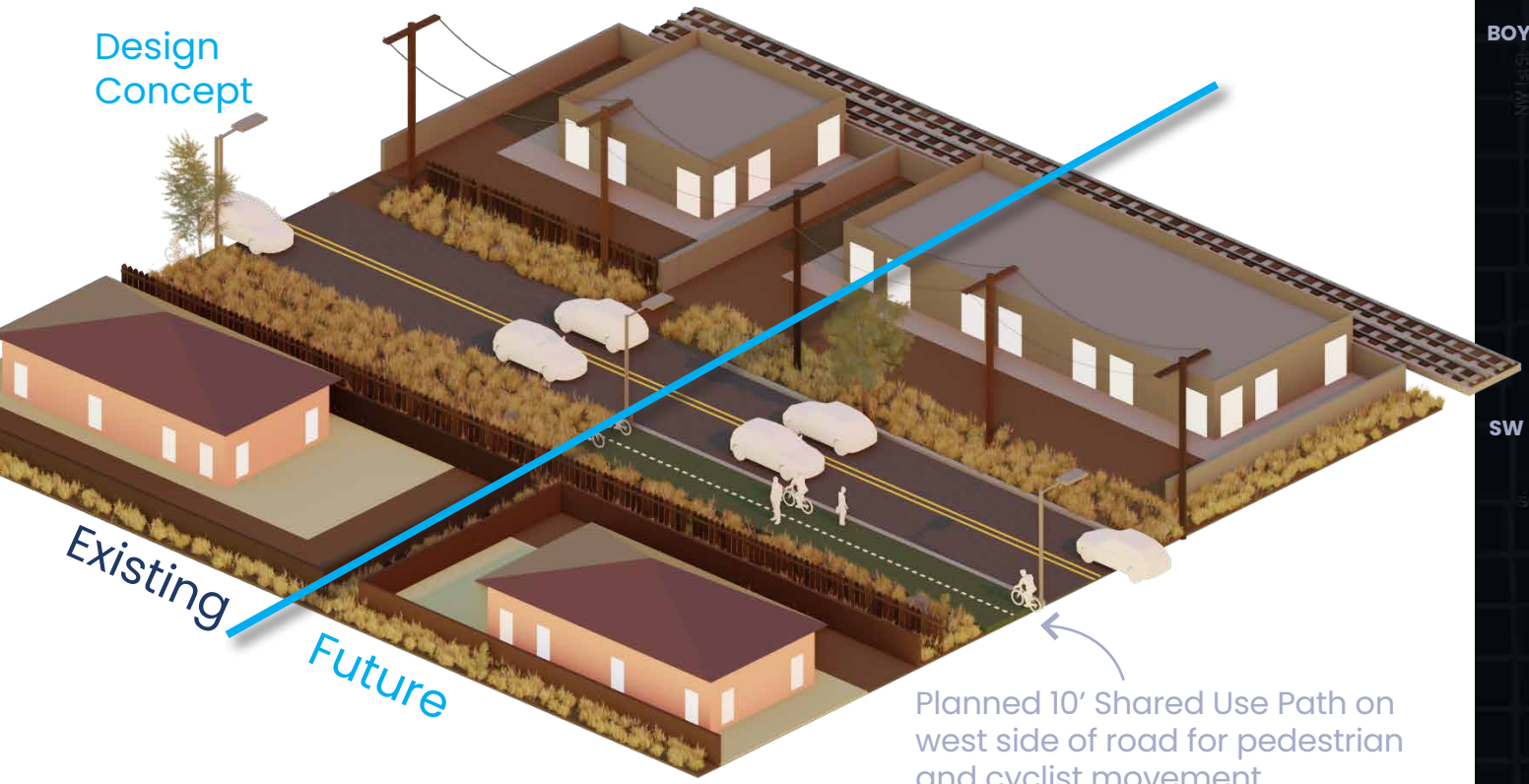
The City of Boynton Beach would like to understand mobility trends around the SE 1st Street corridor to provide insights into the value of planned complete streets improvements for the corridor.

Summarizing

Comparing vehicular speed, volume, road fatality, census, and land use data to provide insights into mobility trends along, and surrounding SE 1st Street.

Introduction

Design Concept

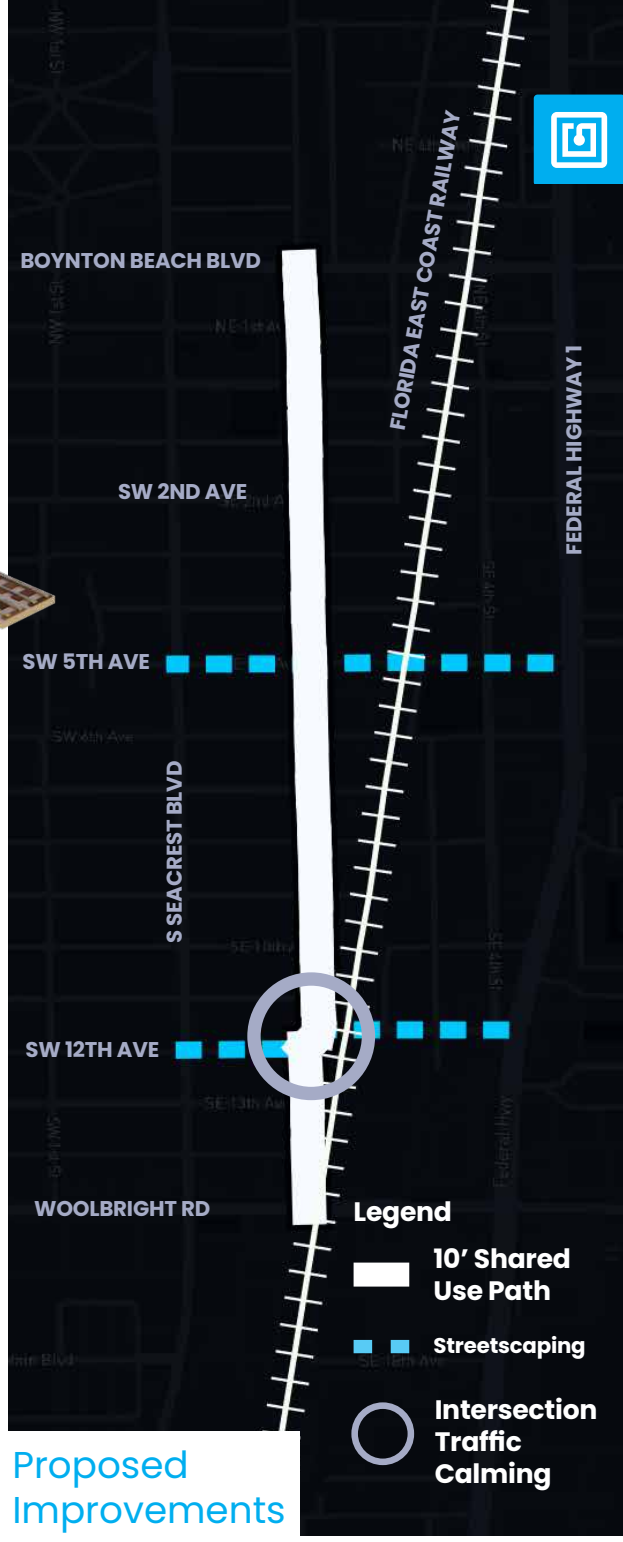


Planned Improvements

SE 1st Street does not currently have any active transportation infrastructure; comprising a two-lane roadway with grass boulevards on either side.

It is proposed to have a 10 foot shared use path on the west side of the road between Boynton Beach Boulevard in the north, and Woolbright Road in the south (conceptualized above). There are also intersection traffic calming measures proposed at SE 12th Avenue.

To complement its use, and enhance safe access to/from transit, enhanced traffic calming streetscaping and updated sidewalks are proposed on SE 5th and SE 12th Avenues between Seacrest Boulevard and Federal Highway 1. This would allow complete streets improvements along SE 1st Street to create a network that would support current safety needs as well as planned transit-oriented development and growth.



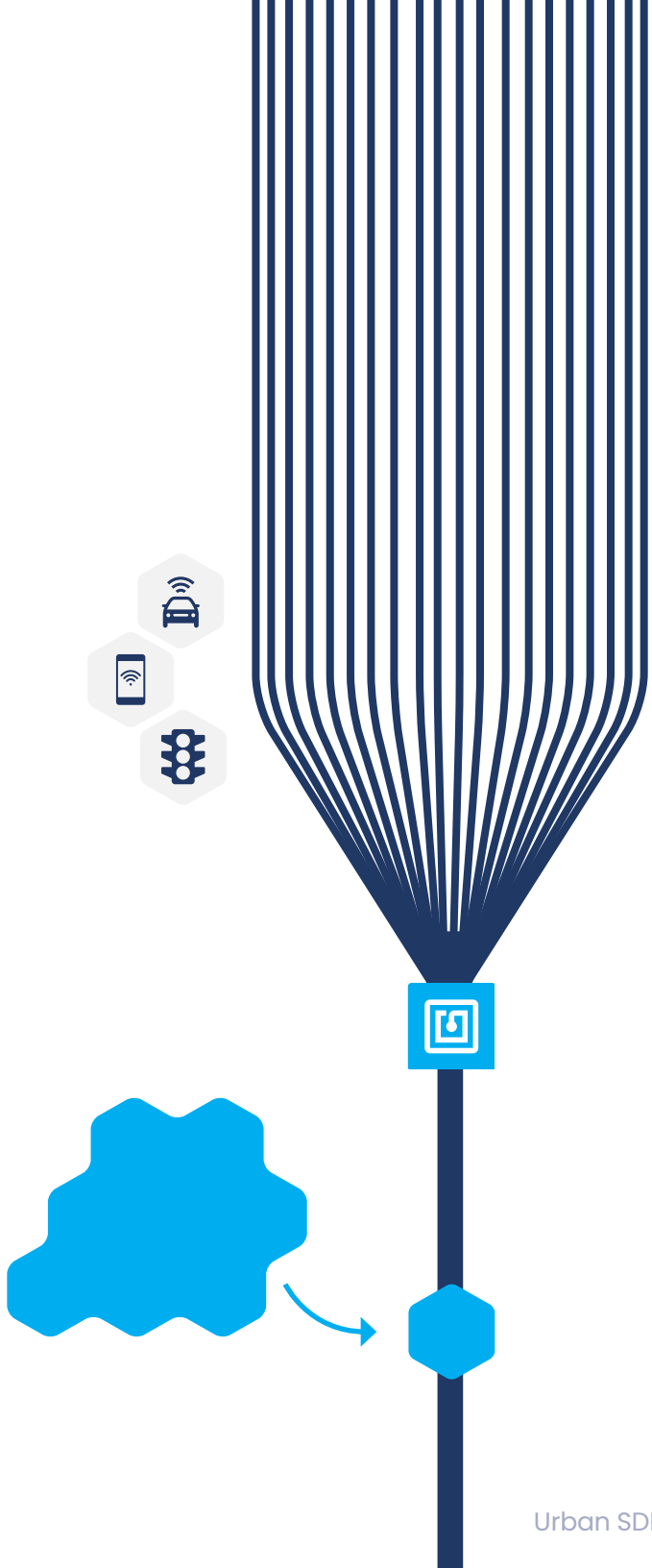
Proposed Improvements

Methodology

Data Collection

Urban SDK cleaned and aggregated its own raw data sources for this memo, as well as other publicly available data sources.

- **HERE Technologies** provides raw data from connected vehicles. It is obtained in raw 15-minute intervals and is used to derive Speed Metrics. Data for May 2022-May 2023 was used for this memo.
- **Mobile Data**, location-based services (LBS) provide metadata including longitude/latitude, time, and an anonymized ID. This data is used to calibrate Traffic Volume.
- **Government Counts** annually published traffic counts from Federal and State governments are used to develop Traffic Volume models to derive Average Annual Daily Traffic (AADT). 2021 data was used for this memo.
- **FARS** is a database of road fatalities maintained by the National Highway Traffic Safety Administration. Data from 2016-2020 (most recent available) was used for this memo.
- **Census Data** age, population, income, and vehicle availability data was obtained from the 2020 Census.
- **Transit GTFS** route and schedule data was obtained from Palm Tran's public GTFS feed. Data is from May 2023.
- **Land Use Data** obtained land development rates and planned uses from the City of Boynton Beach's zoning portal.



Data Spec

Traffic Speed

These are the values and descriptions for the traffic speed data used in this memo.

Data Values

Average Speed:

Average speed of travel along a link during the selected time period.

Free Flow Speed:

Average vehicle speed along a link during low-volume periods.

85th Percentile Speed:

Speed at or below which 85% of drivers will travel along a link during the selected time period.

95th Percentile Speed:

Speed at or below which 95% of drivers will travel along a link during the selected time period

Data Table

Field	Type	Description
link_id	integer	Unique link ID.
road_name	string	Name of the road.
county_name	string	County where the link resides.
state_name	string	State where the link resides.
geometry	WKT MULTILINE-STRING	WKT formatted Geometry.
funclass_id	integer	Functional class (1-5).
length_in_miles	numeric	Link length (miles).
_year	integer	Year.
_month	integer	Month (1-12).
_period	integer	Typical period of day (1-7).
speed_limit	integer	Posted speed limit (mph).
speed_average*	numeric	Average speed (mph).
speed_freeflow*	numeric	Free flow speed (mph).
speed_85th*	numeric	85th percentile speed (mph).
speed_95th*	numeric	95th percentile speed (mph).

*A separate column is created for each day of week

Data Spec

Traffic Volume

These are the values and descriptions for the traffic volume data used in this memo.

Data Values

Average Annual Daily Traffic (AADT):

The estimated average daily volume of traffic on a link. This is estimated by using ground truth state counts to expand Urban SDK's location based services (LBS) data.

Data Table

Field	Type	Description
link_id	integer	Unique link ID.
road_name	string	Name of the road.
county_name	string	County where the link resides.
state_name	string	State where the link resides.
geometry	WKT MULTI-LINESTRING	WKT formatted Geometry.
funclass_id	integer	Functional class (1-5).
length_in_miles	numeric	Link length (miles).
_year	integer	Year.
aadt	integer	Average annual daily traffic.

Findings

Assessment Metrics

The findings provided within this memo are presented across the following assessment metrics that each summarize a different aspect of SE 1st Street and its surroundings.

85th Percentile Speed:

A summary of 2022 daily, weekly, and monthly vehicular speeds to highlight which hours, days of the week, and months experience higher or lower speeds along SE 1st Street and surrounding roads.

AADT:

A summary of 2021 Average Annual Daily Traffic (AADT) volumes along SE 1st Street, as well as surrounding roads.

Fatalities:

A summary of historical fatalities between 2016-2020 surrounding SE 1st Street based on the Fatality Analysis Reporting System (FARS) collision database maintained by the National Highway Traffic Safety Administration (NHTSA).

Demographics & Income:

A summary of 2020 population, age distribution, median household income, and vehicle ownership surrounding SE 1st Street based on data from the U.S. Census Bureau.

Land Use:

A summary of planned land uses and growth rates surrounding SE 1st Street based on local zoning and development plans.

Transit & AT Accessibility:

A summary of existing transit frequencies and the quality of active transport facilities surrounding SE 1st Street, based on General Transit Feed Specification (GTFS) data from Palm Tran (May 2023).

Findings

Study Area

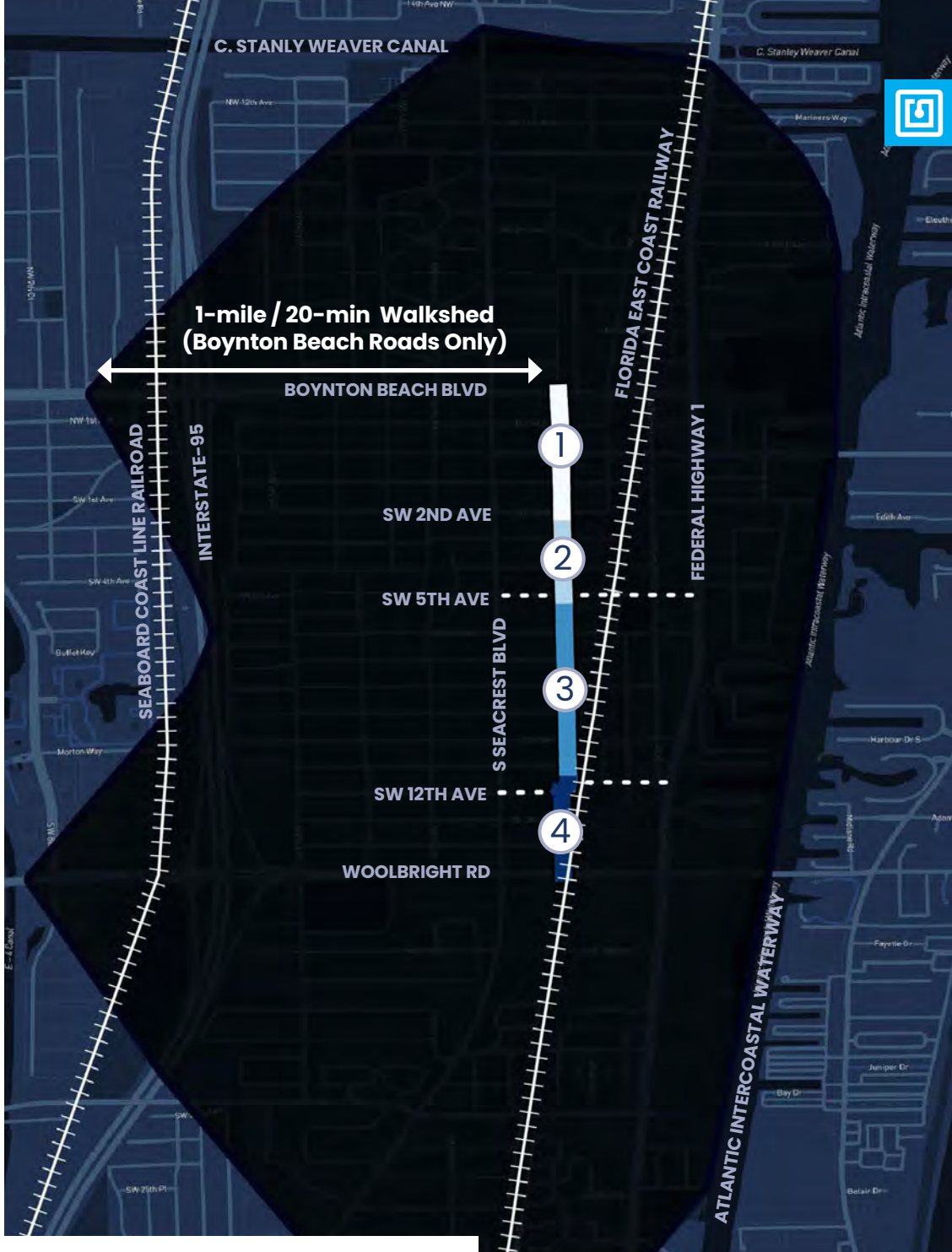
SE 1st Street was separated into four (4) segments based on land use to compare how the industrial context in the south differs from the urban uses in the north.

A 1-mile (20 minute) walkshed was generated around the corridor to assess SE 1st Street in relation to its surroundings. This distance also represents a suitable catchment area for estimating demand to the corridor based on existing and planned development.

Around the corridor are various barriers that limit east-west mobility to only a few major corridors, requiring many trips to first travel north-south, the same orientation as SE 1st Street, prior to traveling east-west.

The major mobility barriers are:

- **Interstate 95:** The highway is a major north-south connector, but creates a barrier for east-west travel.
- **Railways:** The Florida East Coast Railway, directly adjacent to SE 1st Street, and the Seaboard Coast Line Railroad further west.
- **Waterways:** The Atlantic Intercoastal Waterway, east of SE 1st Street, and the C. Stanly Weaver Canal in the north.



Study Area & 1 Mile Walkshed

Findings

Census Tracts

Urban SDK reviewed the SS4A documentation on calculating percent of population in underserved communities. The % of disadvantaged population in each census tract was obtained through the Equitable Transportation Community Explorer (ETC) Tool[1].

There are four census tracts that contain a significant portion of disadvantaged population including:

- 5703 (92%)
- 5704 (92%)
- 6203 (100%)
- 6301 (99%)
- 6302 (99%)

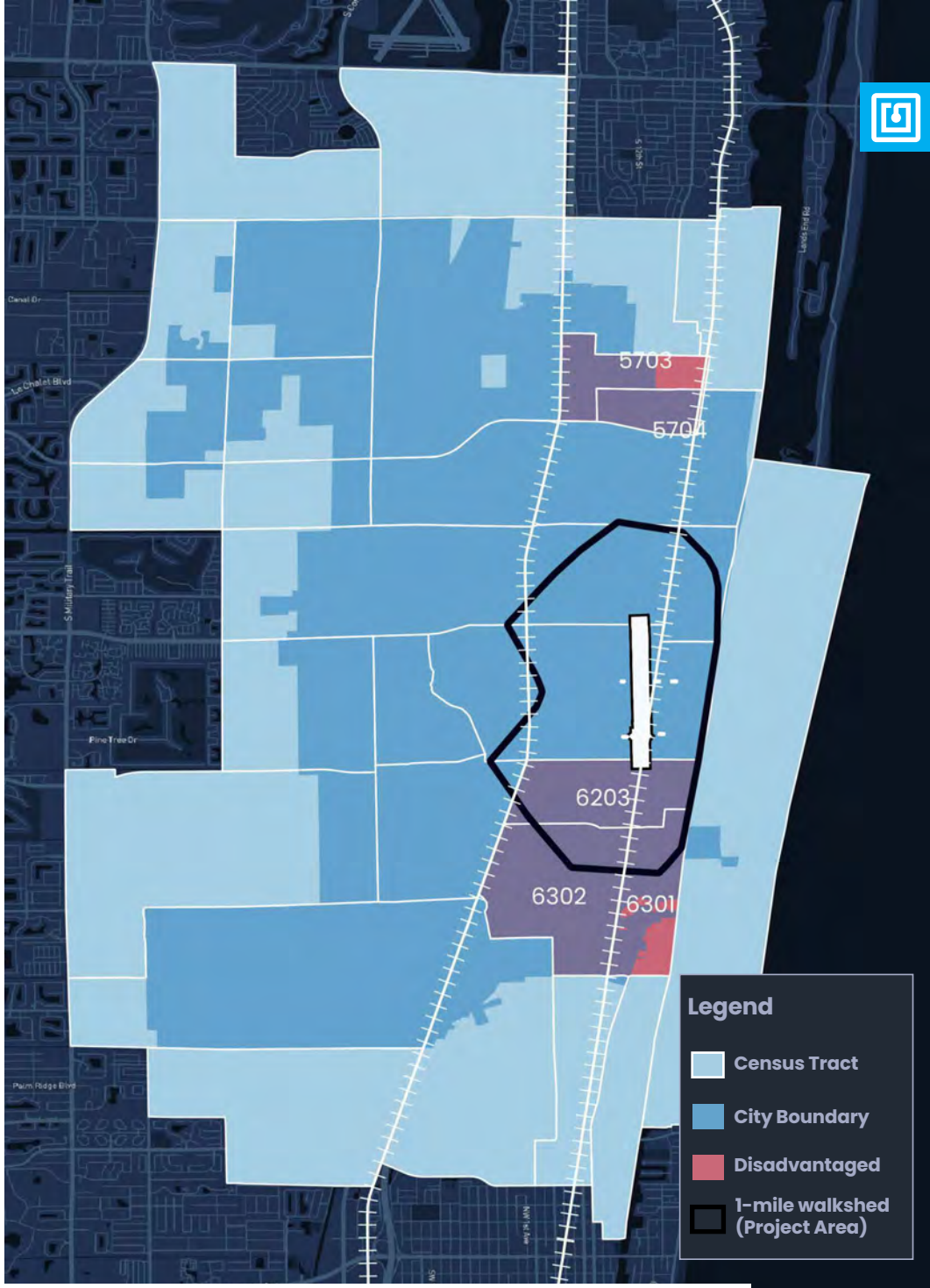
Cumulatively, 23% of the population within the project area is considered disadvantaged, which exceeds the Citywide rate of 13%.

A list is provided on the following page of all of the Census Tracts and their percentage of disadvantaged population, as well as the proportion of each census tract that is within the City of Boynton Beach Boundary, and within the Project Area.

1 https://www.transportation.gov/sites/dot.gov/files/2023-06/SS4A-Underserved-Community-MappingTools-FY23_rev-6-21_0.pdf

Percent Disadvantaged
(2020 Census / SS4A Tool)

	Boynton Beach	Project Area
2020 Population	75,874	14,666
% disadvantaged	13%	23%



City Boundary / Census Tracts / Project Area

Findings

Census Tracts

The data presented in the table to the right quantifies Census Tracts and their percentage of disadvantaged population, as well as the proportion of each census tract that is within the City of Boynton Beach Boundary, and within the Project Area (1 mile of SE 1st Street).

Population data is based on te 2020 Census. The % of disadvantaged population in each census tract was obtained through the Equitable Transportation Community Explorer (ETC) Tool[1].

1 https://www.transportation.gov/sites/dot.gov/files/2023-06/SS4A-Underserved-Community-MappingTools-FY23_rev-6-21_0.pdf

List of Census Tracts in Jurisdiction & Project Area
(2020 Census / SS4A Tool)

Census Tract ID	2020 Pop	% Disadvantaged	% in Boynton Beach	% in Project Area
5411	3,291	-	2%	-
5601	6,188	-	28%	-
5602	1,794	-	<1%	-
5702	8,029	-	97%	<1%
5703	2,502	92%	75%	-
5704	1,786	92%	100%	-
5807	4,665	-	1%	-
5810	1,729	-	16%	-
5811	3,917	-	47%	-
5812	5,140	-	27%	-
5813	5,998	-	70%	-
5815	5,138	100%	1%	-
5818	3,857	-	100%	-
5819	3,290	-	19%	-
5820	6,058	-	92%	-
5821	5,394	-	87%	-
6005	3,971	-	100%	4%
6007	3,453	-	53%	-
6008	2,762	-	17%	-
6009	2,128	-	100%	-
6010	3,819	-	100%	12%
6012	5,179	-	77%	1%
6100	4,633	-	100%	75%
6201	5,209	-	100%	97%
6202	2,167	-	98%	95%
6203	2,129	100%	100%	96%
6301	3,004	99%	76%	28%
6302	2,920	99%	100%	19%
6401	2,039	-	<1%	-
6501	1,590	-	2%	-
6602	3,260	-	23%	-
6606	4,267	-	89%	-
6607	5,892	-	<1%	-

Findings

85th Percentile Speed

85th percentile speeds were compared by period, weekday, and month along SE 1st Street. No segment saw speeds exceeding the posted limit of 25 mph, however there were notable differences across the corridor.

Segment 1 between Boynton Beach Boulevard and SW 2nd Avenue had the slowest speeds. Typically 5-7 mph lower than the other segments.

Segments 3-4 between SE 5th Avenue and Woolbright Road saw the fastest speeds with Segment 2 being ~2 mph slower. These portions of the corridor are a mix of residential and industrial uses with no sidewalks.

The fastest periods were overnight and early mornings. Weekends were generally faster than weekdays, and winter months were faster than summer months.

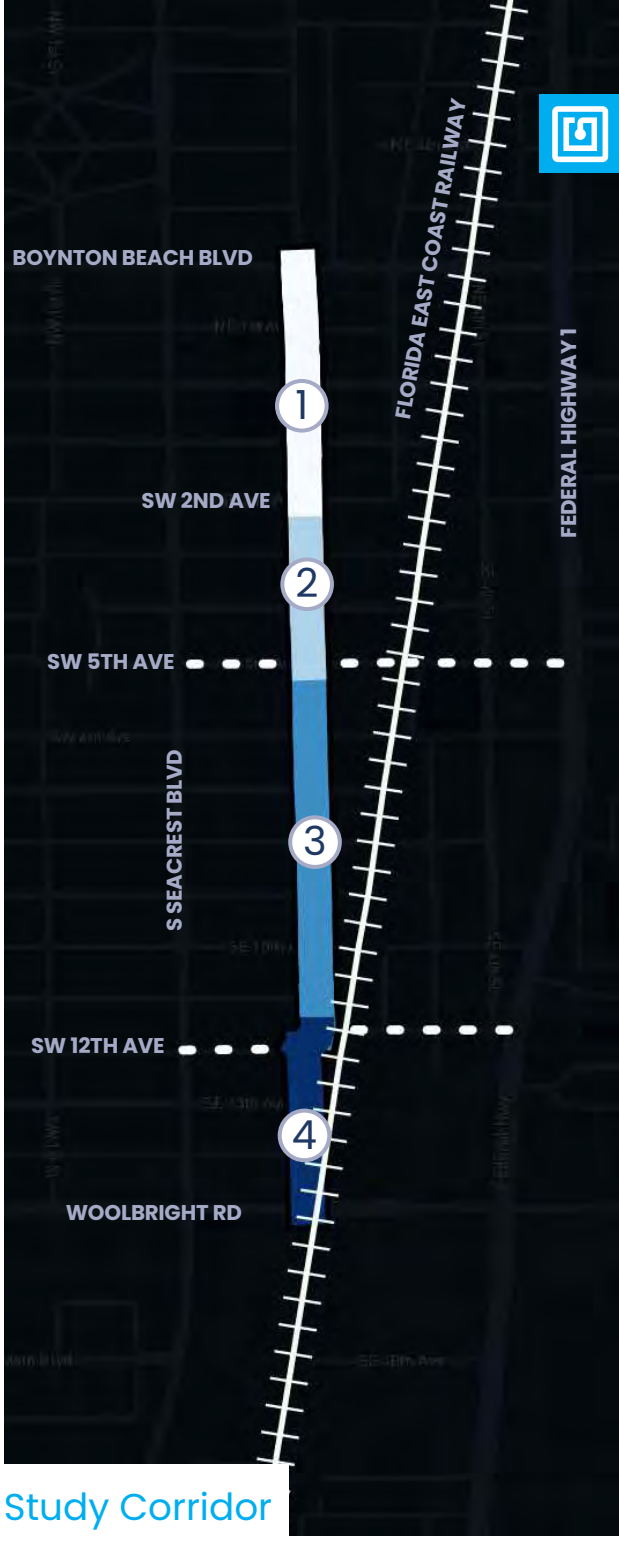
Annual 85th Percentile Speed by Period of Day, Weekday, and Month

Study Corridor Segments
(May 2022 - May 2023)

Period >	0-4	4-7	7-10	10-13	13-16	16-19	19-24
1	15.4	15.4	15.1	14.9	15.2	15.0	14.8
2	21.3	20.7	19.0	18.7	19.1	18.5	18.0
3	23.0	23.0	20.4	20.4	21.0	21.0	19.9
4	21.9	22.6	20.6	20.8	20.9	20.8	19.7
Corridor	**20.5**	**20.6**	**18.9**	**18.8**	**19.2**	**19.0**	**18.3**

Day >	Mon	Tue	Wed	Thur	Fri	Sat	Sun
1	15.0	15.1	15.2	15.3	15.1	15.0	15.1
2	19.1	19.0	19.5	19.6	19.6	19.1	19.3
3	20.6	20.9	21.1	21.0	21.3	21.8	21.9
4	20.8	20.8	20.9	20.9	20.9	21.1	21.8
Corridor	**19.0**	**19.1**	**19.3**	**19.3**	**19.4**	**19.5**	**19.8**

Month >	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.0	15.1	15.2	15.1	15.3
2	19.5	19.5	19.6	19.3	19.3	19.1	19.0	19.1	19.0	19.3	19.1	19.8
3	21.5	21.4	21.5	21.1	21.2	21.1	21.0	21.0	21.0	21.2	21.2	21.8
4	21.1	21.1	21.4	21.1	21.0	21.3	21.0	20.6	21.0	21.0	20.9	21.1
Corridor	**19.5**	**19.5**	**19.6**	**19.3**	**19.3**	**19.3**	**19.2**	**19.1**	**19.2**	**19.3**	**19.2**	**19.7**



Study Corridor

Findings

85th Percentile Speed

Major roadways show a pattern of increased speeds on weekends, however, in contrast to SE 1st Street which experiences slightly faster speeds during the winter months, the major roadways in the area experience the opposite effect; faster speeds in the summer months. Additionally, major roads experience 85th percentile speeds between 41 - 44 mph which is ~20 mph higher than speeds observed on SE 1st Street.

Monthly 85th Percentile Speed by Weekday

Major Local Roads within 1 Mile

(Functional Classes 3 & 4 / May 2022 - May 2023)

Month	Mon	Tue	Wed	Thur	Fri	Sat	Sun
1	42.2	41.9	41.4	41.8	41.5	43.1	43.8
2	41.8	41.5	41.6	41.4	40.3	41.5	43.2
3	41.7	41.6	41.7	41.7	41.9	43.0	43.3
4	42.0	41.8	41.9	41.9	42.0	43.3	43.7
5	42.7	42.4	42.4	42.4	42.4	43.6	44.0
6	42.7	42.6	42.8	42.8	42.5	43.5	44.2
7	43.1	42.6	43.0	43.0	42.7	43.6	44.1
8	42.9	42.7	42.7	42.7	42.6	44.0	44.0
9	42.9	42.1	42.2	42.5	42.5	43.8	44.1
10	42.4	42.1	42.3	42.5	42.4	43.9	44.1
11	42.5	42.2	41.8	42.9	42.5	43.3	43.7
12	42.4	42.0	42.1	42.1	42.3	43.2	44.1
Annual	**42.4**	**42.1**	**42.2**	**42.3**	**42.1**	**43.3**	**43.9**

85th Percentile Speed

Class 3-4 - Sunday, June, Early Morning, 2022

Findings

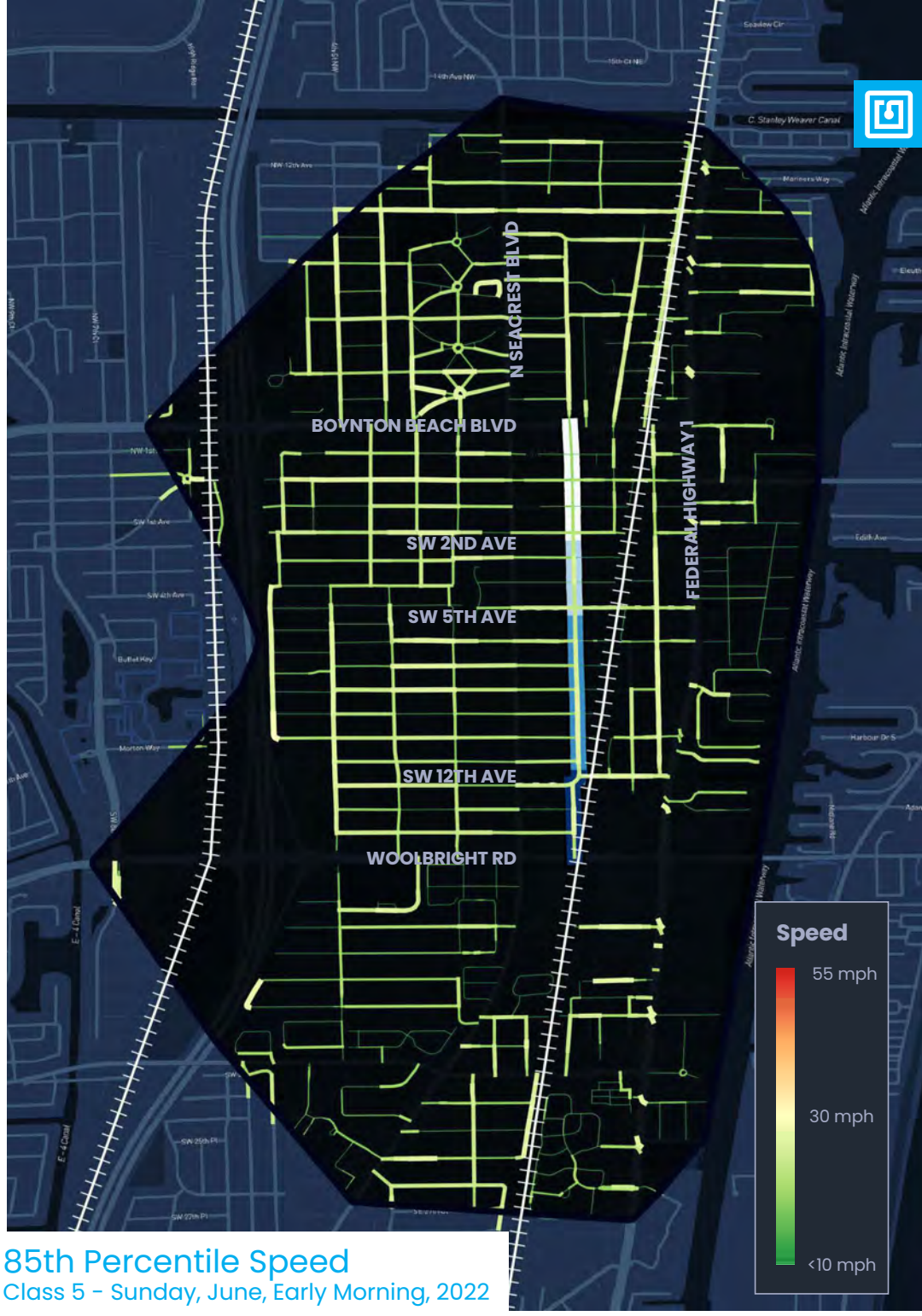
85th Percentile Speed

A comparison of local street speeds within 1 mile of SE 1st Street shows that most are typically 5 mph slower than it, emphasizing that although the corridor is slower than major roadways, it experiences 85th percentile speeds that are ~33% higher than the typical local street within the area.

Monthly 85th Percentile Speed by Weekday Local Streets within 1 Mile

(Functional Class 5 / May 2022 - May 2023)

Month	Mon	Tue	Wed	Thur	Fri	Sat	Sun
1	14.7	14.7	14.6	14.8	14.8	14.9	14.9
2	14.9	14.8	14.8	14.8	14.7	14.8	15.0
3	14.9	14.9	14.9	14.9	14.9	15.0	15.0
4	14.8	14.7	14.7	14.8	14.8	15.0	15.0
5	14.8	14.7	14.7	14.8	14.8	15.0	15.0
6	14.7	14.7	14.7	14.8	14.7	14.8	14.9
7	14.8	14.7	14.7	14.7	14.8	14.9	15.0
8	14.7	14.7	14.7	14.7	14.8	14.9	14.9
9	14.7	14.6	14.5	14.7	14.7	14.9	14.9
10	14.8	14.7	14.7	14.7	14.7	14.9	14.9
11	14.8	14.7	14.6	14.6	14.8	14.9	14.9
12	14.8	14.7	14.7	14.8	14.8	14.9	14.9
Annual	**14.8**	**14.7**	**14.7**	**14.8**	**14.8**	**14.9**	**14.9**



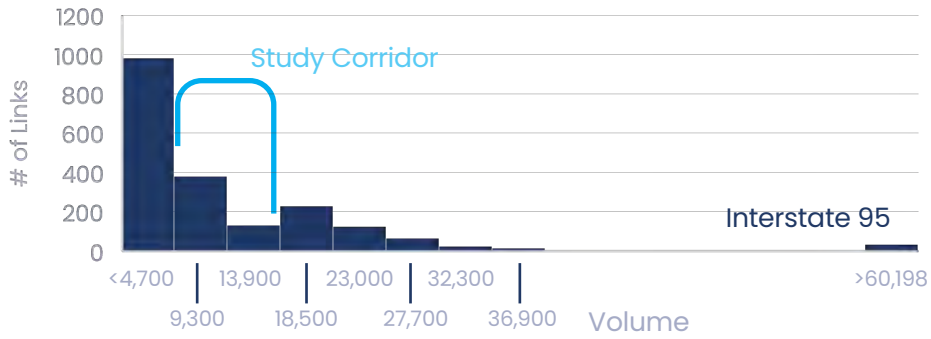
85th Percentile Speed
Class 5 - Sunday, June, Early Morning, 2022

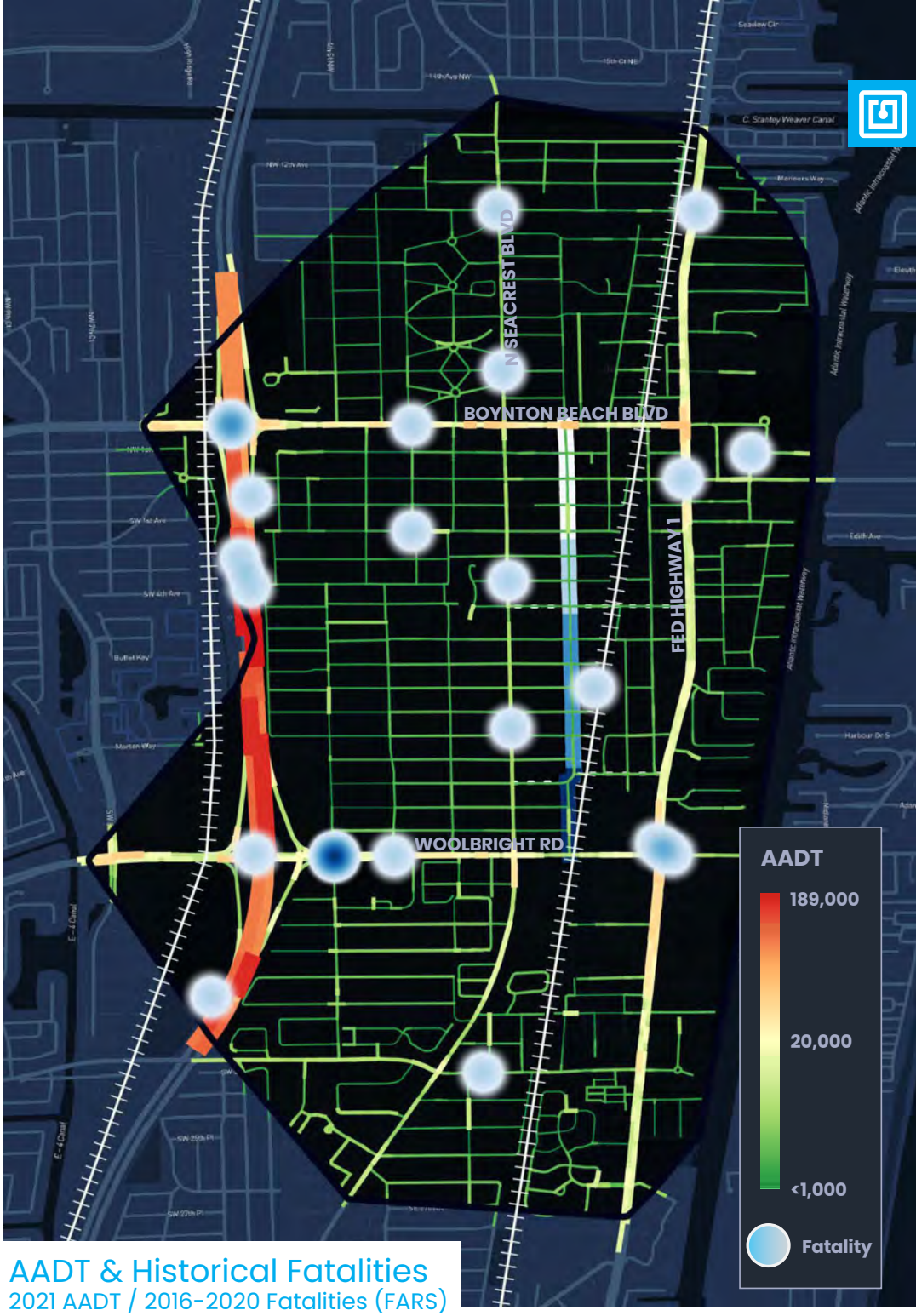
Findings

AADT & Fatalities

A comparison of 2021 Average Annual Daily Traffic (AADT) and historical road fatalities between 2016-2020 shows that most fatalities occurred on roadways with higher volumes (see map to the right). While most roadways experience lower volumes under 4,700 vehicles per day, SE 1st Street experiences between 9,300-13,900 vehicles a day which is higher than most nearby local streets, but much less than surrounding major streets.

2021 AADT Distribution within 1 Mile





AADT & Historical Fatalities
2021 AADT / 2016-2020 Fatalities (FARS)

Findings

Fatalities

A review of historical roadway fatalities between 2016-2020 shows that although the total number of annual fatalities have risen by 9% across the City, the overall collision rate did not grow by as much when normalized for population growth (see table to the right)[1].

The average annual rate of fatalities between 2016-2020 was 208 per 100,000 population across the entire city. Within the project area the average annual rate of fatalities was 34 per 100,000 population, however this value is heavily swayed by 2017-2018 which saw exceptionally lower (~40 fewer) fatalities than typical rates for other years observed (2016, 2019, 2020).

It is important to also note that in total amounts, there has been a significant and sustained increase in fatalities surrounding SE 1st Street since the area's low in 2017.

1 2020 Fatality Analysis Reporting System (FARS) - NHTSA

Average Annual Rate of Fatality

per 100,000 population (2016-2020 FARS / Census)

	Boynton Beach			1 Mile (Project Area)		
	Pop	Fatal	Annual Rate	Pop	Fatal	Annual Rate
2016	70,609	148	210	13,558	7	52
2017	72,293	144	199	13,825	1	7
2018	72,851	158	217	13,739	2	15
2019	74,052	150	203	14,400	6	42
2020	75,875	162	214	14,665	8	55
5-Year Avg		**152**	**208**		**5**	**34**

Findings

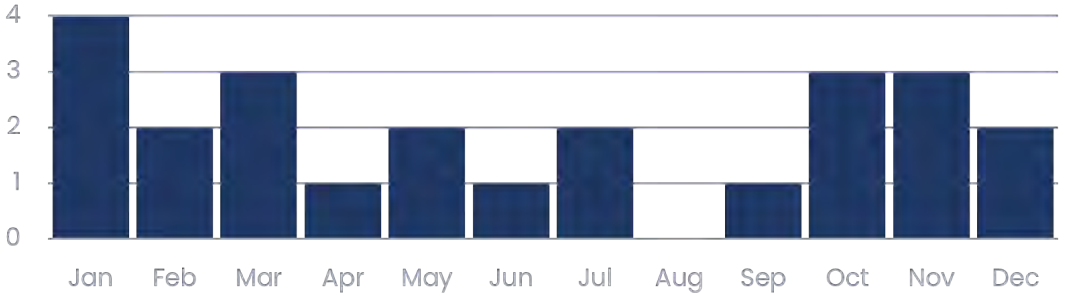
Fatalities

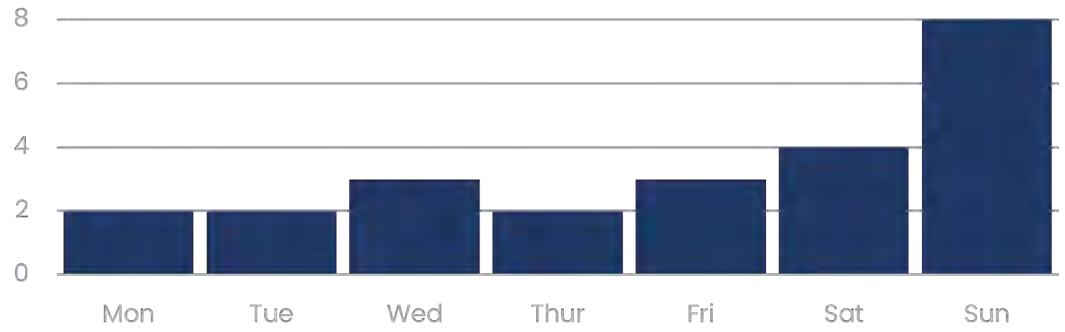
A review of historical roadway fatalities between 2016-2020 shows that winter months generally had more collisions than summer months. January had the highest number of collisions.

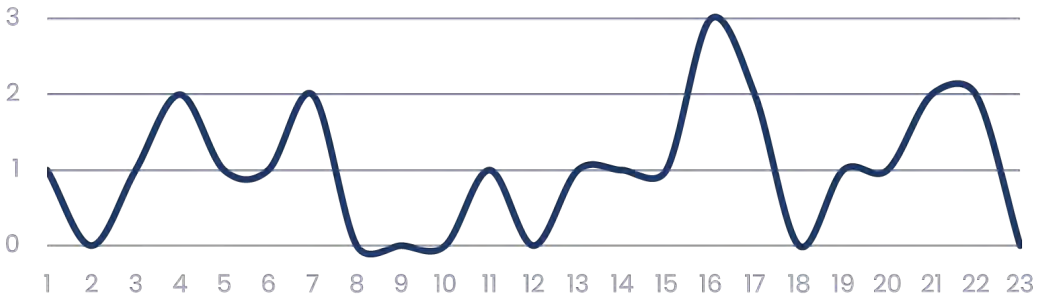
A review of fatalities across a typical week highlights elevated rates on weekends particularly on Sundays, while Monday, Tuesday, and Thursday had the fewest.

Comparing collisions across a typical day shows that most collisions occur in the mornings between 3am-8am, as well as during the early afternoon between 3pm-5pm, there was also a third subset that occurred in the evening between 9pm-11pm.

Historical Road Fatalities by Month, Weekday, and Hour
within 1 mile of SE 1st Street (2016-2020 FARS)







Findings

Active Transport Accessibility

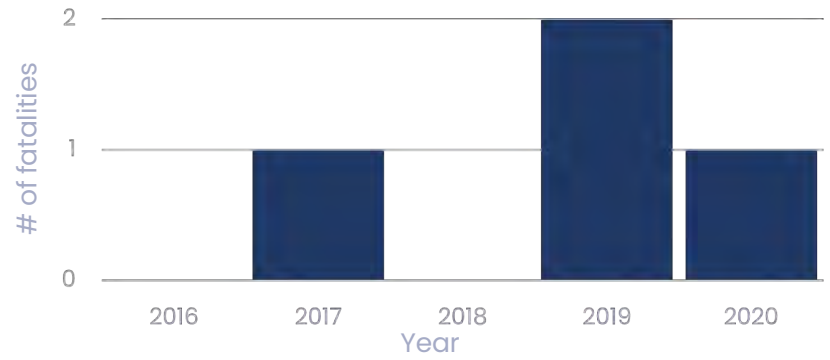
Existing cycling routes were obtained through the Palm Beach TPA open data portal. As part of this data file, the TPA provides a cycling suitability classification which describes how safe and comfortable each portion of the cycling network is based on traffic counts, speed limit, freight movement, and the type of cycling facility[1].

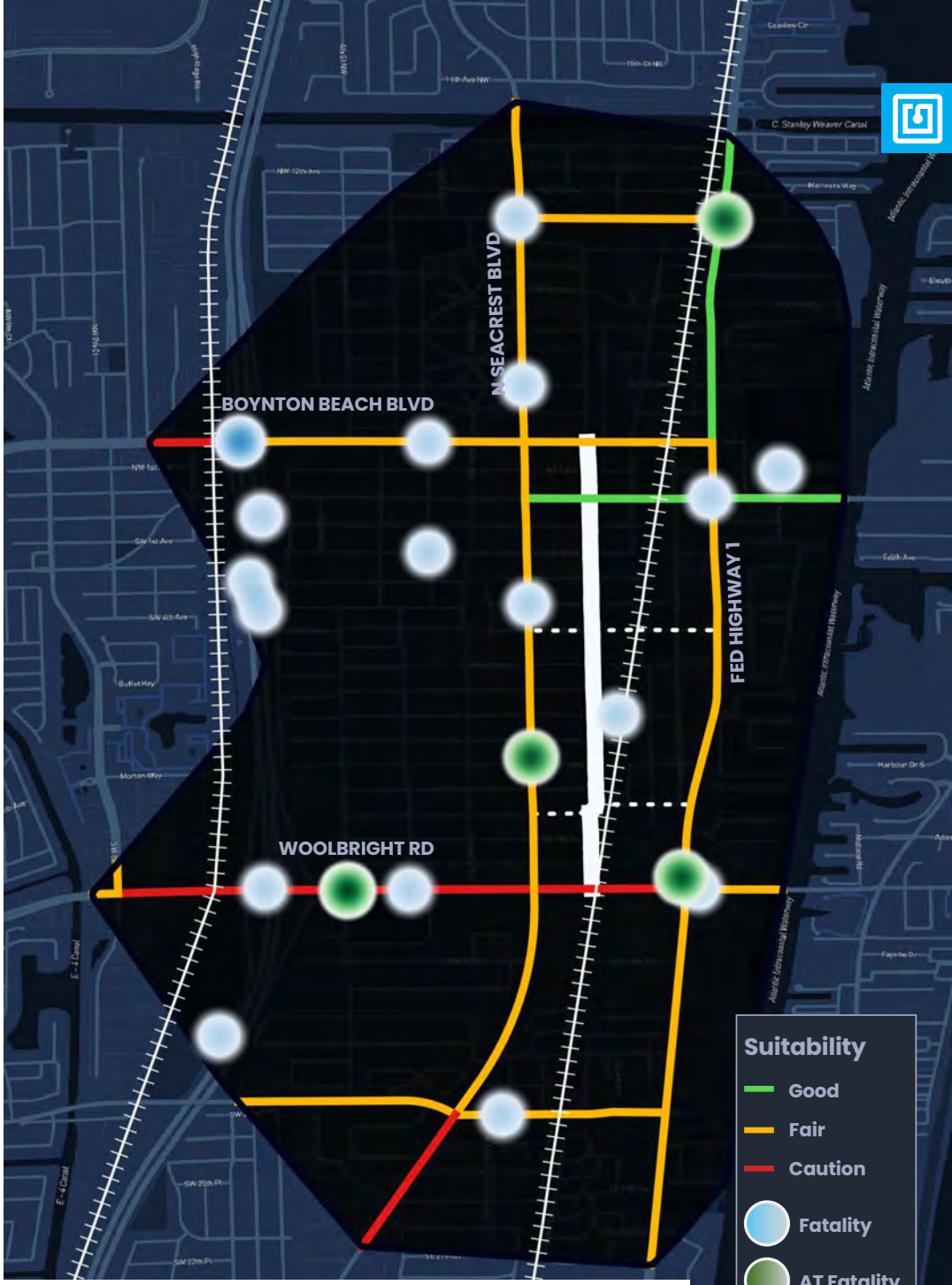
Most routes within 1 mile of SE 1st Street are categorized as either "Fair" or "Caution" indicating that despite the availability of cycling facilities they may be intimidating for novice cyclists (see map to the right). Most fatalities, and all four fatalities involving AT, occurred along a bike route that was "Fair" or "Caution"[2]. These classifications stem from the fact that most of the routes are only painted lanes, or signed lanes operating in high-volume conditions which provide the least protection.

1 Palm Beach TPA Open Data Portal - Accessed June 29, 2023

2 2020 Fatality Analysis Reporting System (FARS) - NHTSA

Historical Road Fatalities involving AT by Year, Within 1 Mile of SE 1st Street (2016-2020 FARS)





Cycling Condition & AT-Involved Fatality
Palm Beach TPA 2020 / 2016-2020 FARS

Findings

Transit Accessibility

The local transit network surrounding SE 1st Street includes three bus routes with frequencies ranging from every 20 minutes for Route 1 along Federal Highway 1, to every 45 minutes on Route 70 which travels along Seacrest Boulevard, and to every hour for Route 73 that travels along Boynton Beach Boulevard[1].

SE 1st Street is located between Route 1 and 70 giving it good access to the highest-frequency routes in the area. Safe and convenient access to transit by foot or cycling is essential to minimizing transit operating costs and maximizing land development returns that will support future commuter rail expansion and expanded population levels. Planned active transport options along SE 1st Street would provide a useful connection to planned transit expansion.

The 2023 FDOT State Transit Strategy identifies the lack of effective pedestrian connections and unsupportive land uses as one of the primary challenges inhibiting the expansion of effective transit in Florida[2].

1 Palm Tran May 21, 2023 Service Change
2 State Transit Strategy - April 2023

Weekday Transit Frequencies
(Palm Tran May 21, 2023 service changes)

Route	Weekday Frequency by Period (minutes)						
	1	2	3	4	5	6	7
1	-	20	20	20	20	20	30
70	-	40	45	45	45	45	-
73	-	60	60	60	60	60	60
Average	**-**	**40**	**42**	**42**	**42**	**42**	**45**

Existing Peak Period Transit Frequencies
Palm Tran May 21, 2023 service change

Findings

Demographics

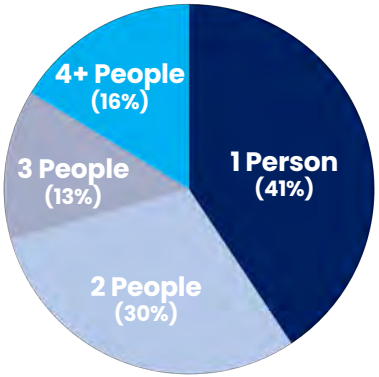
2020 population, age and household size Census data were pulled from Urban SDK's Data Hub to understand existing demographic trends surrounding SE 1st Street. Adjusting for the surface area encompassed within a 1-mile distance of the corridor, the area has approximately 14,670 residents living within a 20 minute walk of SE 1st Street with an average household size of 2[1].

A review of age distributions within the area shows that the largest cohort is young professionals between 20-34 years of age, as well as elderly persons between 55-79.

1 2020 Census - U.S. Census Bureau

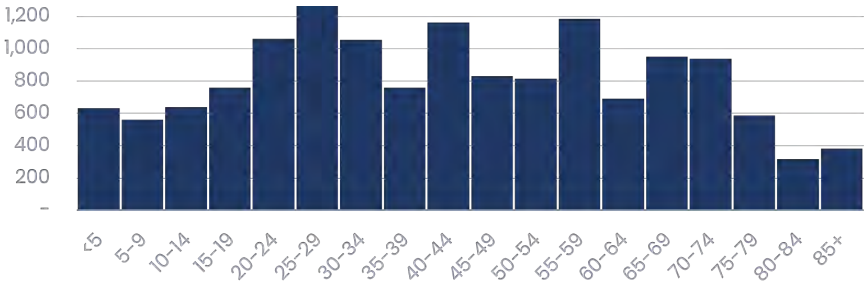
Census Household Sizes within 1-Mile of Corridor

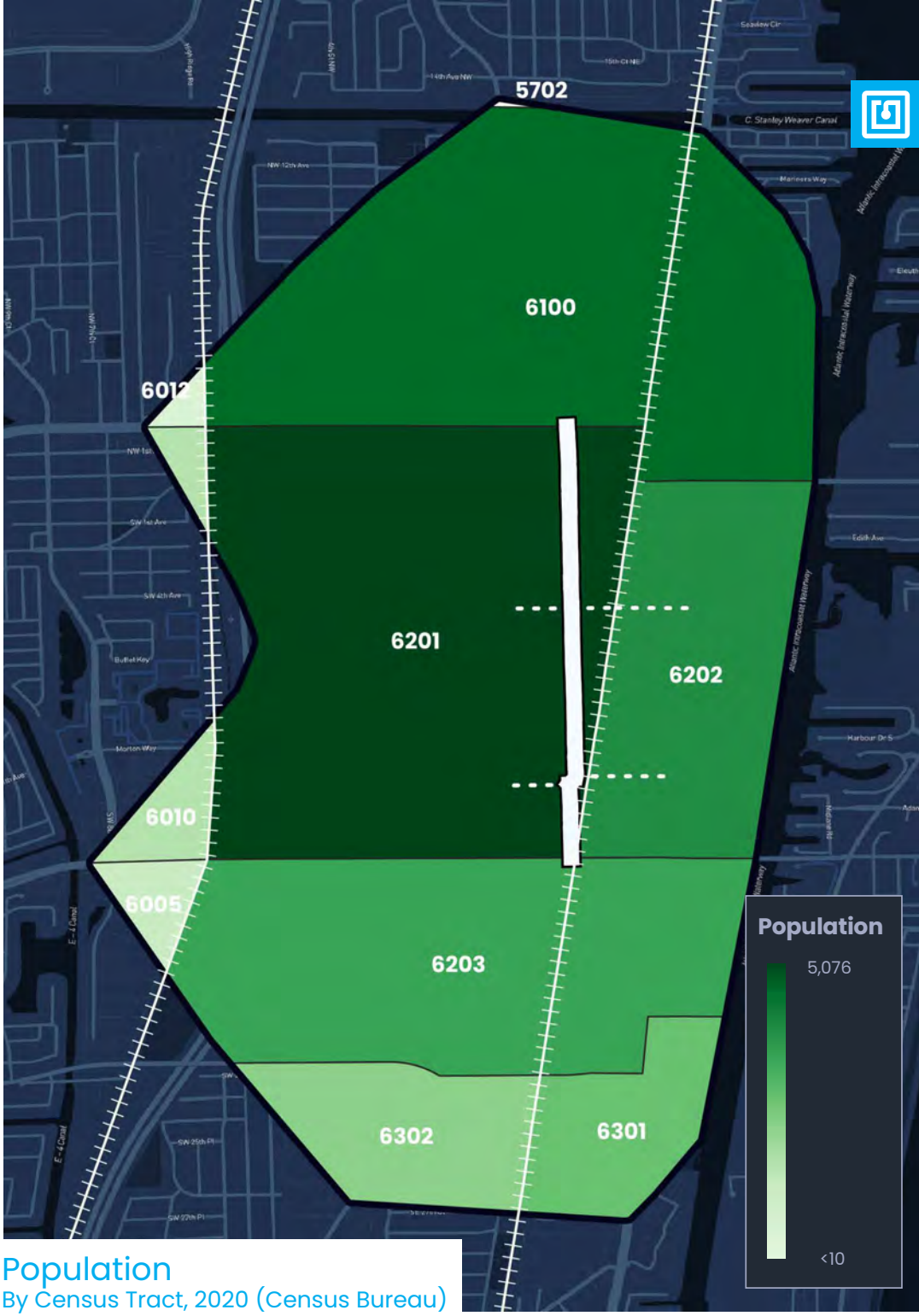
(2020 Census)



Total Age Distribution within 1-Mile of Corridor

(2020 Census)





Population
By Census Tract, 2020 (Census Bureau)

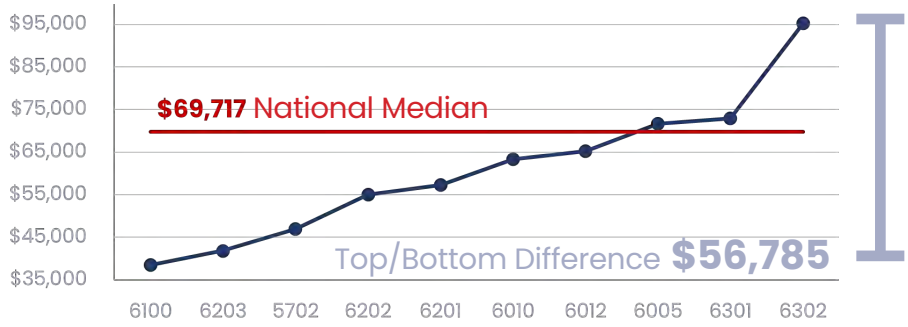
Findings

Income & Vehicle Ownership

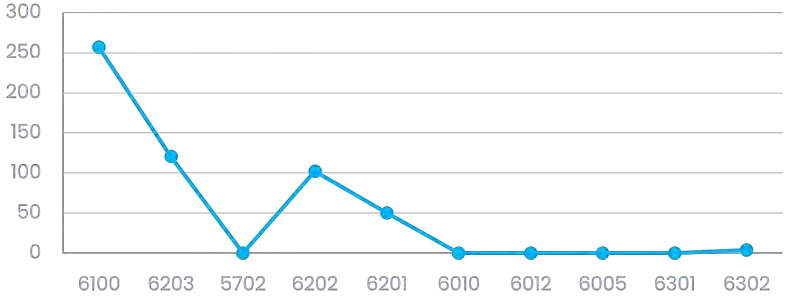
A review of median household income for census tracts within 1 mile of SE 1st Street shows that the corridor connects across low income areas. Comparing this with households that had no vehicle ownership shows an inverse relationship between income and vehicle ownership whereby lower income households are less likely to own a vehicle, and thus rely more on active transportation, or transit for mobility[1].

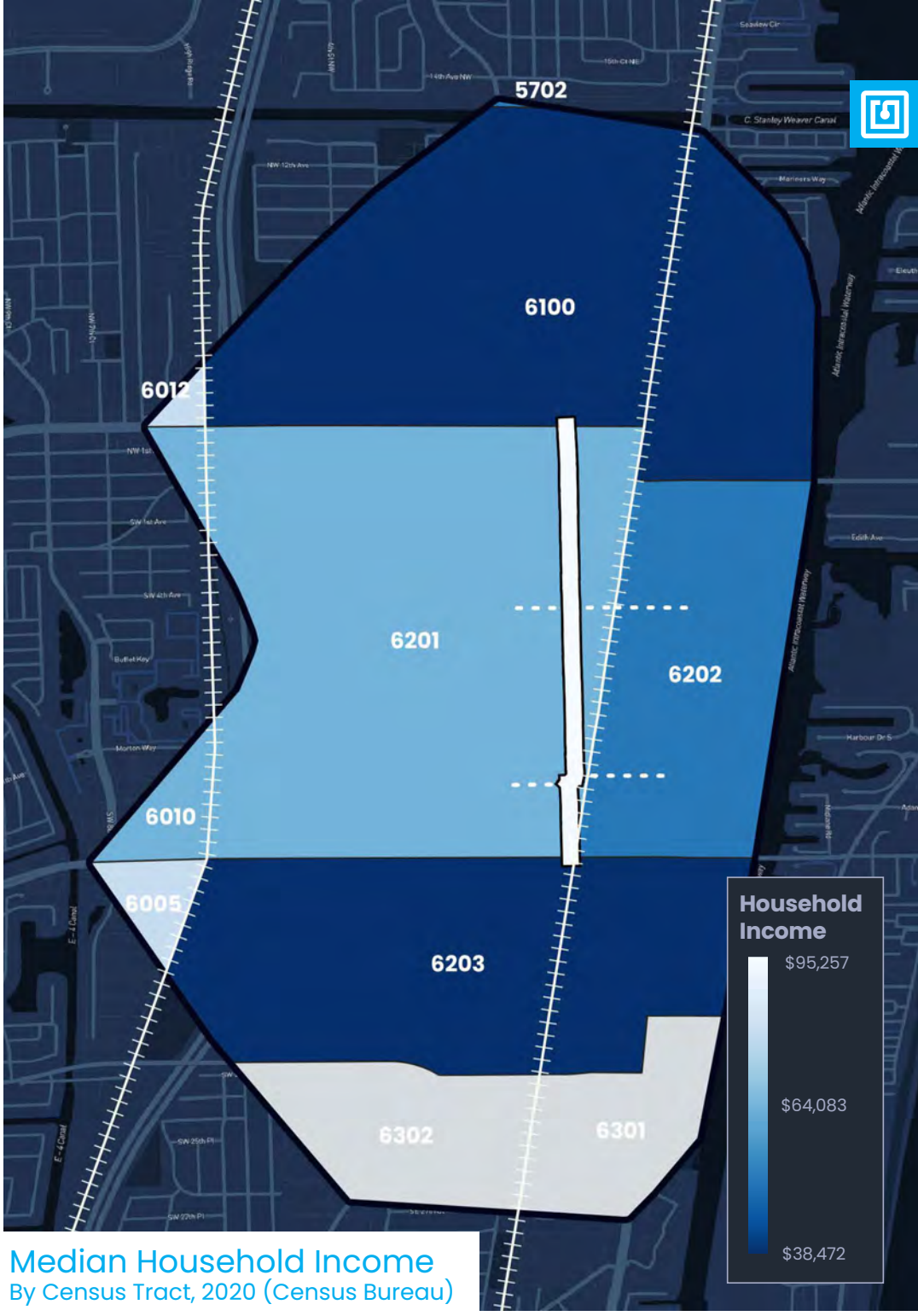
1 2020 Census – U.S. Census Bureau

Median Household Income within 1-Mile
by Census Tract (2020 Census)



Households with no vehicle within 1-Mile
by Census Tract (2020 Census)





Median Household Income
By Census Tract, 2020 (Census Bureau)

Findings

Land Use - Overlays

A review of the CRA Planning Policy Overlays within 1 mile of SE 1st Street highlights a desire to transition towards a denser, more accessible, and multi-modal community[1].

1 Boynton Beach Community Redevelopment Plan 2016

Martin Luther King Jr. Boulevard District:

Overlay surrounding a portion of Martin Luther King Jr. Boulevard to encourage walkability, commercial activity, and bring a mixture of businesses and housing options to enhance access to goods and services for all.

Boynton Beach Boulevard District:

Overlay surrounding Boynton Beach Boulevard with policies to encourage a transition from the existing separated commercial, residential, and institutional land uses, towards mixed-uses to improve walkability and commercial activity in the downtown.

Cultural District:

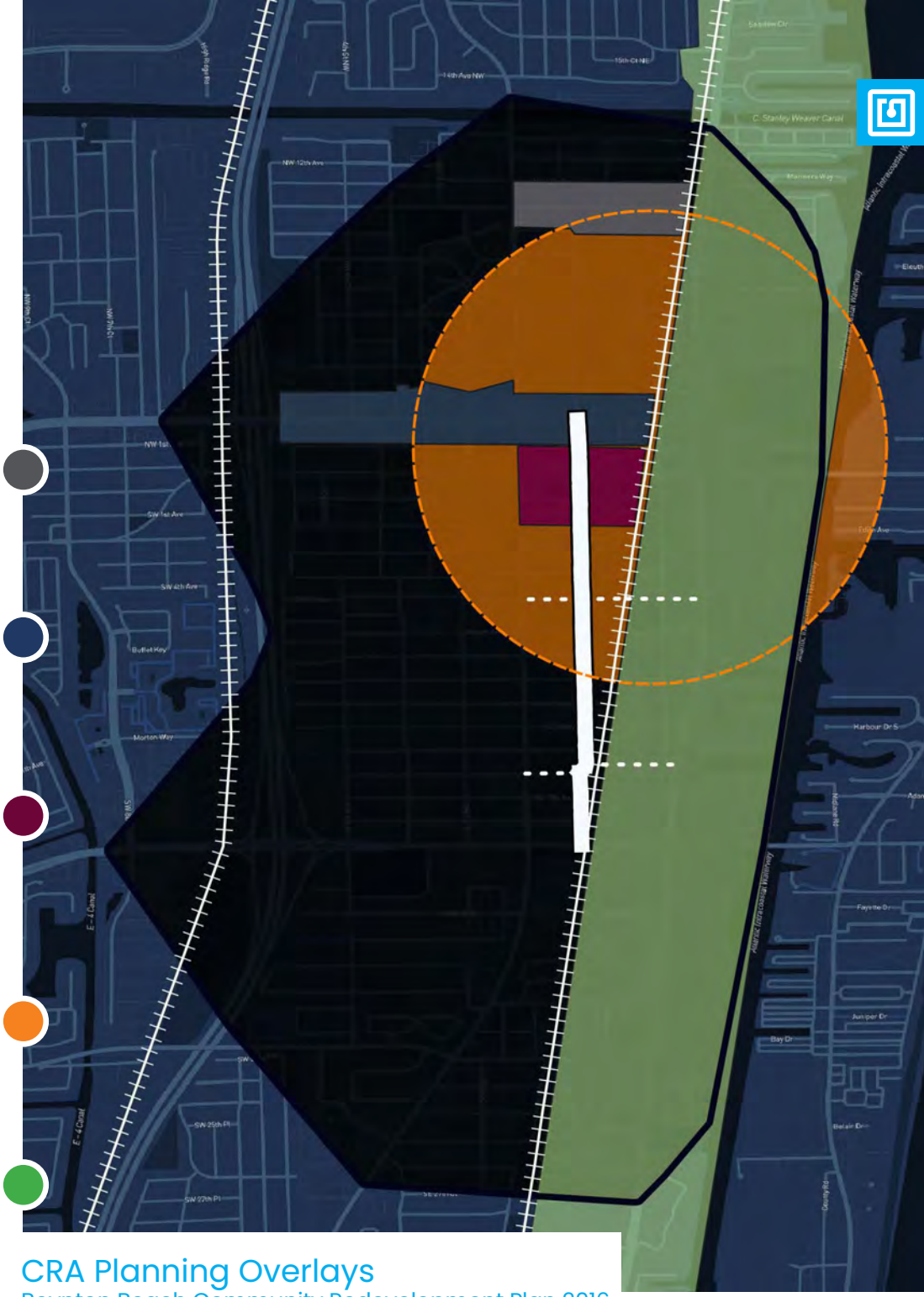
Overlay bound by Boynton Boulevard in the north, SE 2nd Avenue in the south, and the Florida East Coast (FEC) Railway tracks in the east, that encourages a transition towards medium and high-density mixed uses that will support specialty public needs and civic gathering space.

Downtown Transit-Oriented Development District:

Half-mile radius overlay from the intersection of Ocean Avenue and the FEC Railway with the intent of encouraging more walkable and transit-supportive land development patterns for the planned Tri-Rail Coastal Link commuter train station.

Urban Commercial District:

Planning policy overlay surrounding Federal Highway 1 with the intent of encouraging and accommodating future commercial, and retail land use needs.



CRA Planning Overlays
Boynton Beach Community Redevelopment Plan 2016

Findings

Land Use – Future Plans

Considerable density is planned around SE 1st Street. Urban SDK estimates that up to 23,700 new dwelling units (DU) could be accommodated within 1 mile, based on planned CRA development rates (see table below)[1].

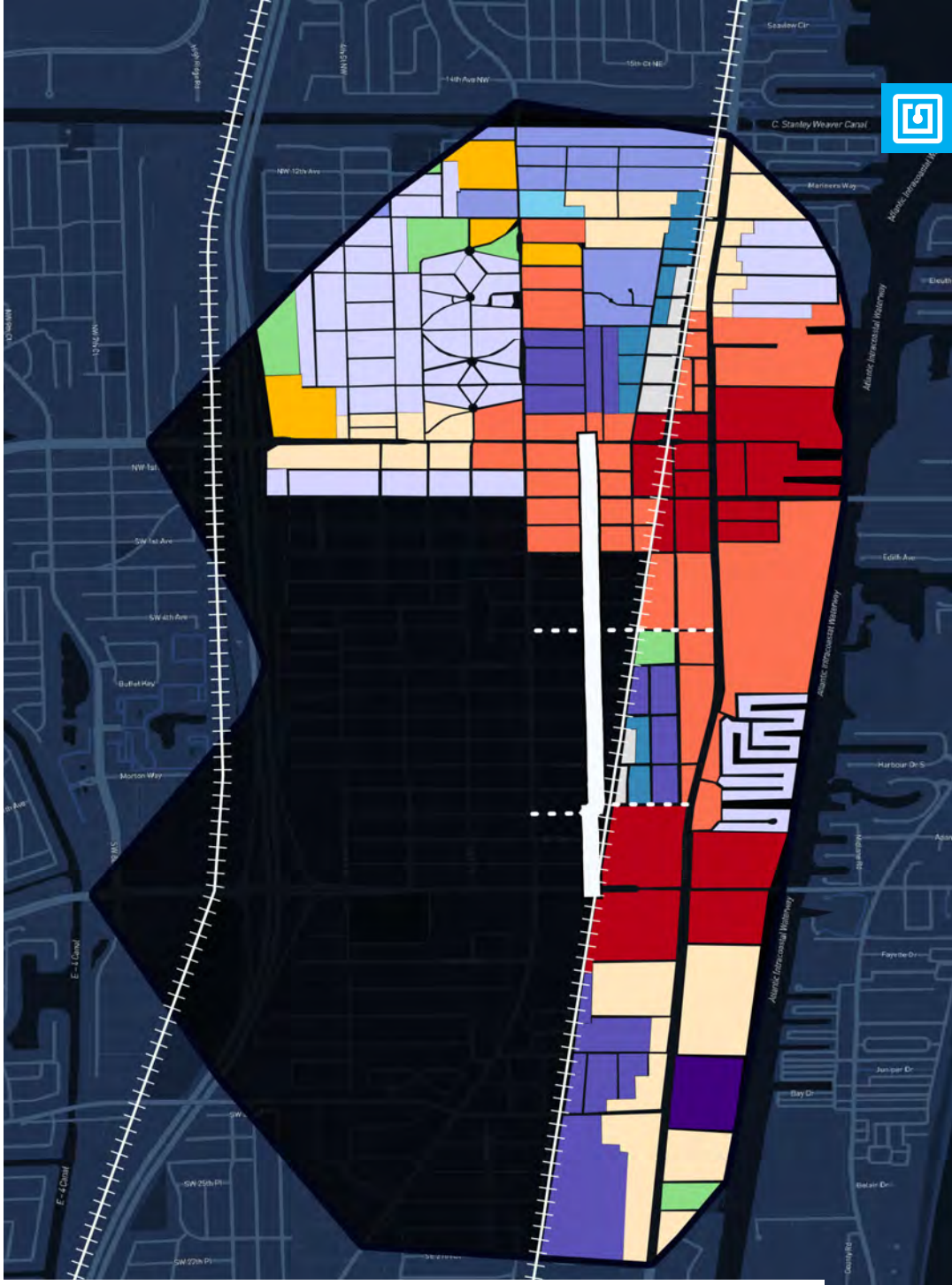
The 2020 Census reflects an average household size of 2.0, which, if applied to planned units, could result in a future population of ~47,000 residents.

1 Boynton Beach Zoning Map / 2016 Community Redevelopment Plan

CRA Planned Land Uses within 1-Mile of Corridor

(Boynton Beach Zoning Map / 2016 Community Redevelopment Plan)

Land Code	Description	Acres	%	DU Rate (by Acre)	DU Potential
MUH	Mixed Use High	120.5	15%	80.0	9,638
MUM	Mixed Use Medium	169.4	22%	50.0	8,470
MUL	Mixed Use Low	122.0	16%	20.0	2,439
SHDR	Special High Density Residential	13.4	2%	20.0	268
HDR	High Density Residential	78.0	10%	15.0	1,170
MEDR	Medium Density Residential	51.8	7%	11.0	569
LDR	Low Density Residential	152.0	19%	7.5	1,138
GC	General Commercial	17.4	2%	-	-
LRC	Local Retail Commercial	3.9	0%	-	-
I	Industrial	10.7	1%	-	-
R	Recreational	17.4	2%	-	-
PPGI	Institutional	3.9	0%	-	-
	Total	**786.8**	**100%**		**23,692**
	2.0 Average Household Occupancy			Estimated Pop	47,384



CRA Planned Land Uses
Boynton Beach Zoning Map / 2016 Community Redevelopment Plan)

Conclusions

A review of speed, volume, road fatalities, demographics, and land use data identified the following conclusions in relation to the proposed complete streets improvements planned for SE 1st Street:

NETWORK BARRIERS

East-West barriers encourage north-south travel

The area surrounding SE 1st Street has many east-west barriers that limit crossings and requires residents living between Boynton Beach Boulevard and Woolbright Road to first travel north-south, the same orientation as SE 1st Street, prior to traveling east-west along a major road.

85TH PERCENTILE SPEED

Fastest speeds between SE 5th Ave and Woolbright Rd

While no segment of SE 1st Street experienced 85th percentile speeds above the posted speed limit of 25 mph, the southern portion, which is characterized by a mix of residential and industrial land uses, saw the highest speeds, while the most northern portion nearest Boynton Beach Boulevard saw the slowest speeds.

Winter, weekends, overnight and early mornings were the fastest Periods

85th percentile speeds were ~3mph higher during overnight and early mornings on the fastest portions of SE 1st Street compared to other periods. While Winter months and weekends generally saw a variance of 1 mph difference higher.

SE 1st Street is ~5 mph faster than nearby local streets

The street's posted limit is 25 mph, and it did not experience speeds above this limit, however when comparing SE 1st Street with all nearby local streets within 1-mile, it experiences 85th percentile speeds that are ~5 mph (33%) higher than the typical local street speed within the area. This emphasizes the elevated risk the street presents to vulnerable road users given that there are no active transportation facilities.

Conclusions cont'd

AVERAGE ANNUAL DAILY TRAFFIC & ROAD FATALITIES

Increasing road fatalities surrounding SE 1st Street

A comparison of 2021 Average Annual Daily Traffic (AADT) and historical road fatalities between 2016- 2020 shows that most fatalities occurred on roadways with higher volumes. While most roadways experience lower volumes under 4,700 vehicles per day, SE 1st Street experiences between 9,300- 13,900 vehicles a day which is higher than most nearby local streets, but much less than surrounding major streets.

Increased collisions but also increasing growth

Road fatalities between 2016-2020 show that although the total number of fatalities have risen by 9% across the City, the overall collision rate grew at a slower rate when normalized for population growth. The average annual rate of fatalities between 2016-2020 was 208 per 100,000 population across the entire city and 34 within the Project Area. Despite this, there has been a significant and sustained increase in fatalities in the Project Area in recent years.

ACTIVE TRANSPORT & TRANSIT ACCESSIBILITY

Existing cycling network is intimidating

Most cycling routes within 1 mile of SE 1st Street are categorized as either "Fair" or "Caution" suitability, based on Palm Beach TPA's cycling suitability metric. This indicates that despite the availability of cycling facilities, they may be intimidating for novice cyclists. Most fatalities, and all four fatalities involving vulnerable road users, occurred along a bike route that was "Fair" or "Caution". These classifications stem from the fact that most of the routes are only painted lanes, or signed lanes operating in high-volume conditions which provide the least protection. The proposed shared use path on SE 1st Street will be a dedicated facility that will be separated from traffic, creating a safer environment for pedestrians and cyclists.

SE 1st Street is a connecting corridor to local transit

The corridor is located between transit Route 1 and 70 giving it good access to the highest-frequency lines in the area between 20-45 minute frequencies. The proposed traffic calming and active transport improvements on SE 1st Street will support future transit-oriented development and land development plans by encouraging more convenient connections to transit. This will allow future transit-oriented development growth to be shifted onto sustainable transport while mitigating the strain on the road network which is more costly to maintain.

Conclusions cont'd

DEMOGRAPHICS & INCOME

SE 1st Street serves a mixture of age groups

A review of age distributions within the area shows that the largest cohort is young professionals between 20-34 years of age, as well as elderly persons between 55-79, both of these age groups are less likely to own a vehicle.

SE 1st Street is accessible to over 14,600 residents

The area surrounding SE 1st Street is home to approximately 14,670 residents that are within a 20 minute walk with an average household size of 2.

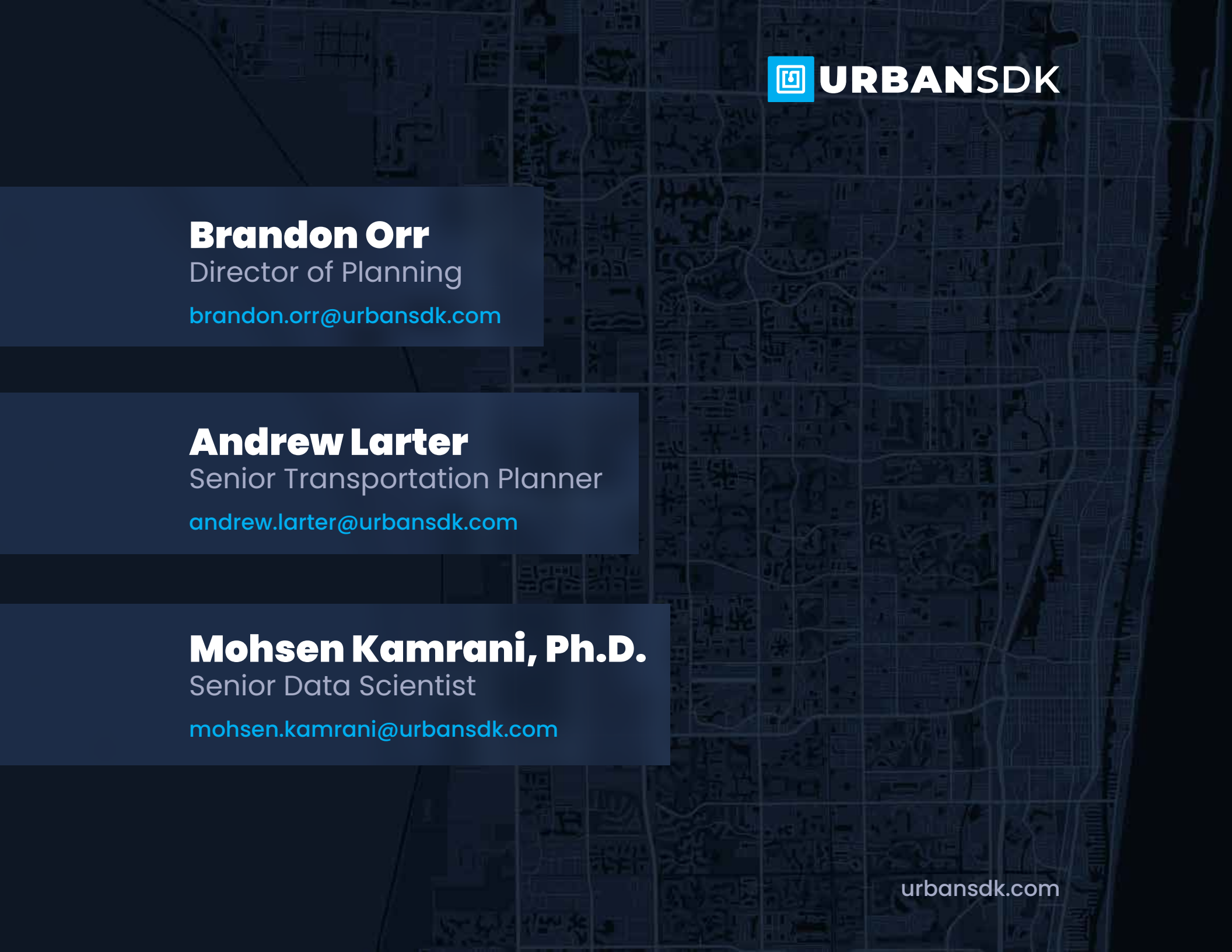
SE 1st Street connects low-income neighborhoods that are less likely to own a car

A review of median household income for census tracts within 1 mile of SE 1st Street shows that the corridor connects across low income areas. Comparing this with households that had no vehicle ownership shows an inverse relationship between income and vehicle ownership whereby lower income households are less likely to own a vehicle, and thus rely more on active transportation, or transit for mobility.

LAND USE

Significant growth is planned around SE 1st Street

A review of the CRA Planning Policy Overlays within 1 mile of SE 1st Street highlights a desire to transition towards a denser, more accessible, and multi-modal community. Urban SDK estimates that up to 23,700 new dwelling units (DU) could be accommodated within 1 mile, based on planned CRA development rates. The 2020 Census reflects an average household size of 2.0, which, if applied to planned units, could result in a future population of ~47,000 residents. This emphasizes the value of active improvements on SE 1st Street to existing and future residents alike to maximize infrastructure investment.



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