The Price of Progress

GIS Analysis of Displacement Risks in Marginalized Communities from LA28 Olympics Light Rail Plans

Calista Ordas

Calista Ordas

B.S: Earth Systems, *Land systems*

Minor: Statistics

M.S: Earth Systems,

Social-Environmental Analysis

Los Angeles Has Promised a 'Car-Free' Olympics in 2028. Can It Do It?

The countdown is on for the city, which will host the next Summer Games and is working on transit upgrades to accommodate hundreds of thousands of visitors.

Listen to this article · 7:21 min Learn more

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Increased Public Transport is Necessary in the Long Run

Los Angeles 2028 Games

by the Numbers

10-15M
TICKETS SOLD

700+
TICKETED EVENTS

3M+
UNIQUE ATTENDEES

80+
COMPETITION AND NON-COMPETITION VENUES

~65K
VOLUNTEERS & EMPLOYEES

~500K
PEAK DAY SPECTATOR IN-TRANSIT

~60
DAYS OF OPERATION

~50K
KEY CONSTITUENTS
(ATHLETES, OFFICIALS, MEDIA, ETC.)

LA Metro Mobility Concept Plan

Today: LA Public Transport

by the Numbers

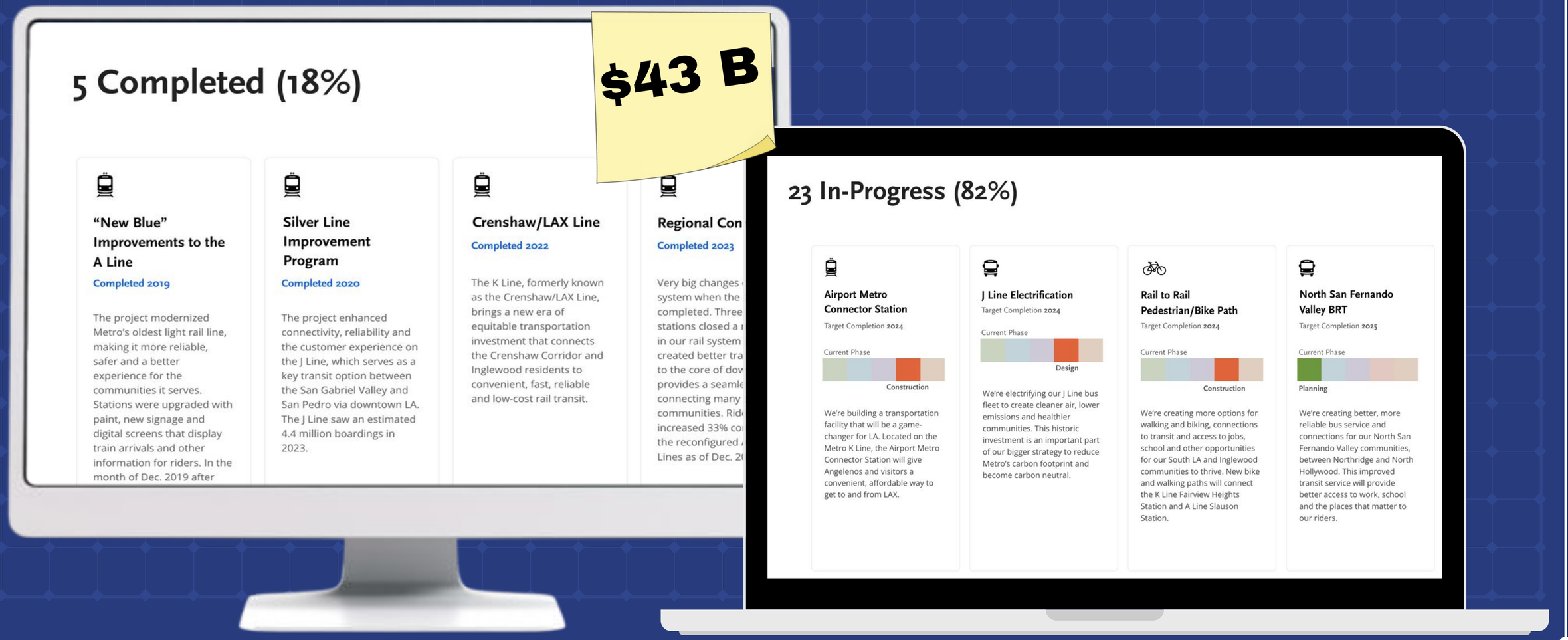
~5% OF PEOPLE USE PUBLIC TRANSPORT (NY = > 60%)

$680 PER YEAR FOR DAILY METRO RIDES

$3K ON GASOLINE A YEAR

6K POUNDS OF CARBON REDUCED BY PERSON ANNUALLY

28 by 28 Project overview



Before Olympic Announcement LA Metro

- <u>4 Light Rails</u>
- 2 Underground Subways
- 2 Busways

The Future of LA Metro for LA28

Partially Funded Projects Included

- **6 Light Rails**
- 3 Underground Subways
- 4 Busways

Where are these new lines going to go?

How would LA28 new metro lines impact historically marginalized communities?

How would new metro lines impact current areas of low income in LA?

Background & Case Studies

What is Displacement?

When someone is forced to move… “the result of eviction, acquisition, rehabilitation, or demolition of property, or the expiration of covenants on rent- or income-restricted housing”

Direct Displacement

- Eviction
- Building torn down for redevelopment

Indirect Displacement

- Rising Rent Prices
- Noise Pollution
- Struggle of Small Businesses

2016 Taipei Metro Case Study

17.1% Displacement Rate of Low Income Households around metro lines

5% Displacement Rate of High Income Households around metro lines

Historical Redlining in LA

1930's 1940: The Home Owners' Loan Corporation (HOLC)

Grades:

A: Best

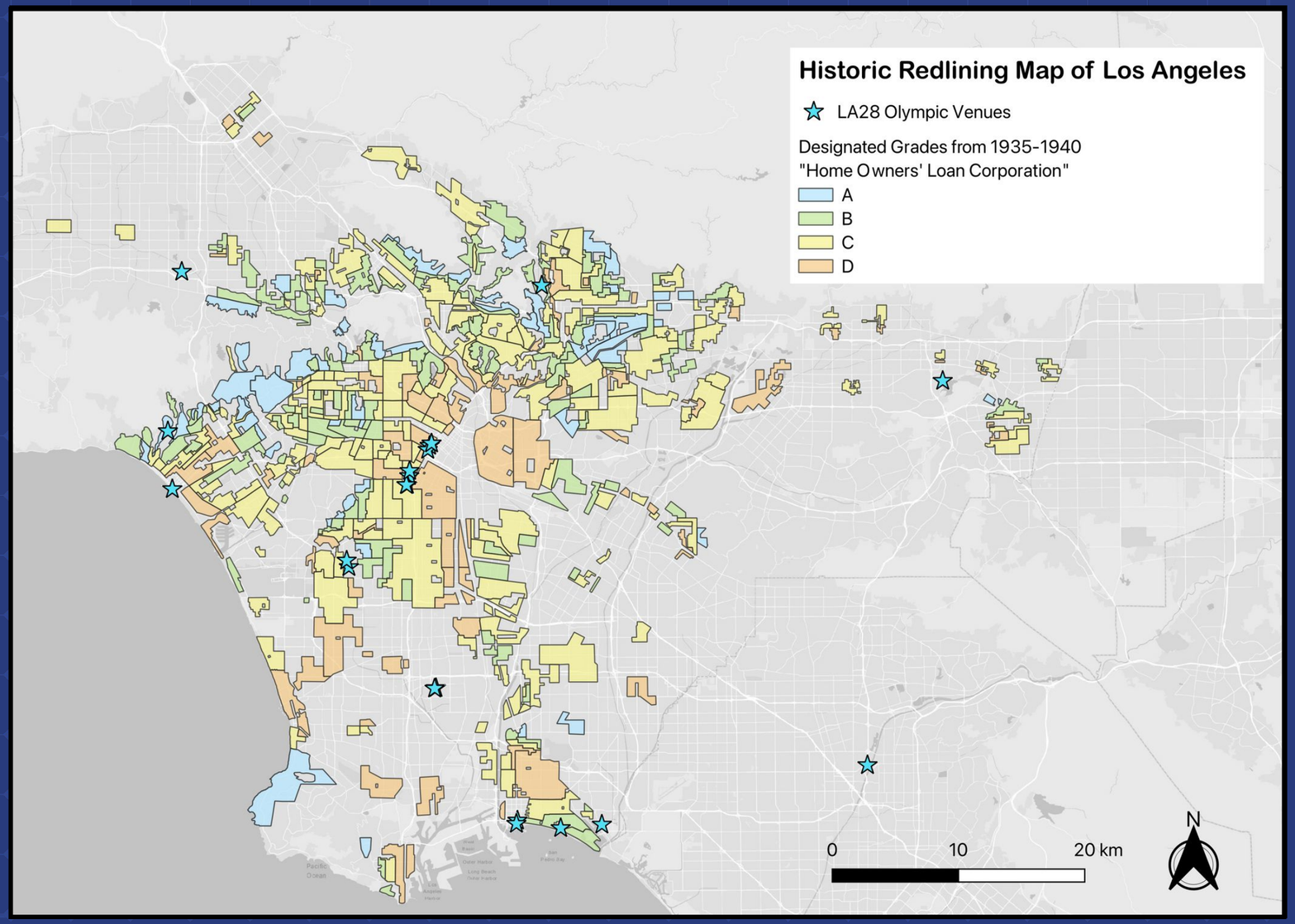
B: Still Desirable

C Definitely Declining

D: Hazardous

These areas continue to be places of rapid gentrification and low home ownership:

- Boyle Heights
- Lincoln Heights



LA 2021 Census % Below Poverty Line

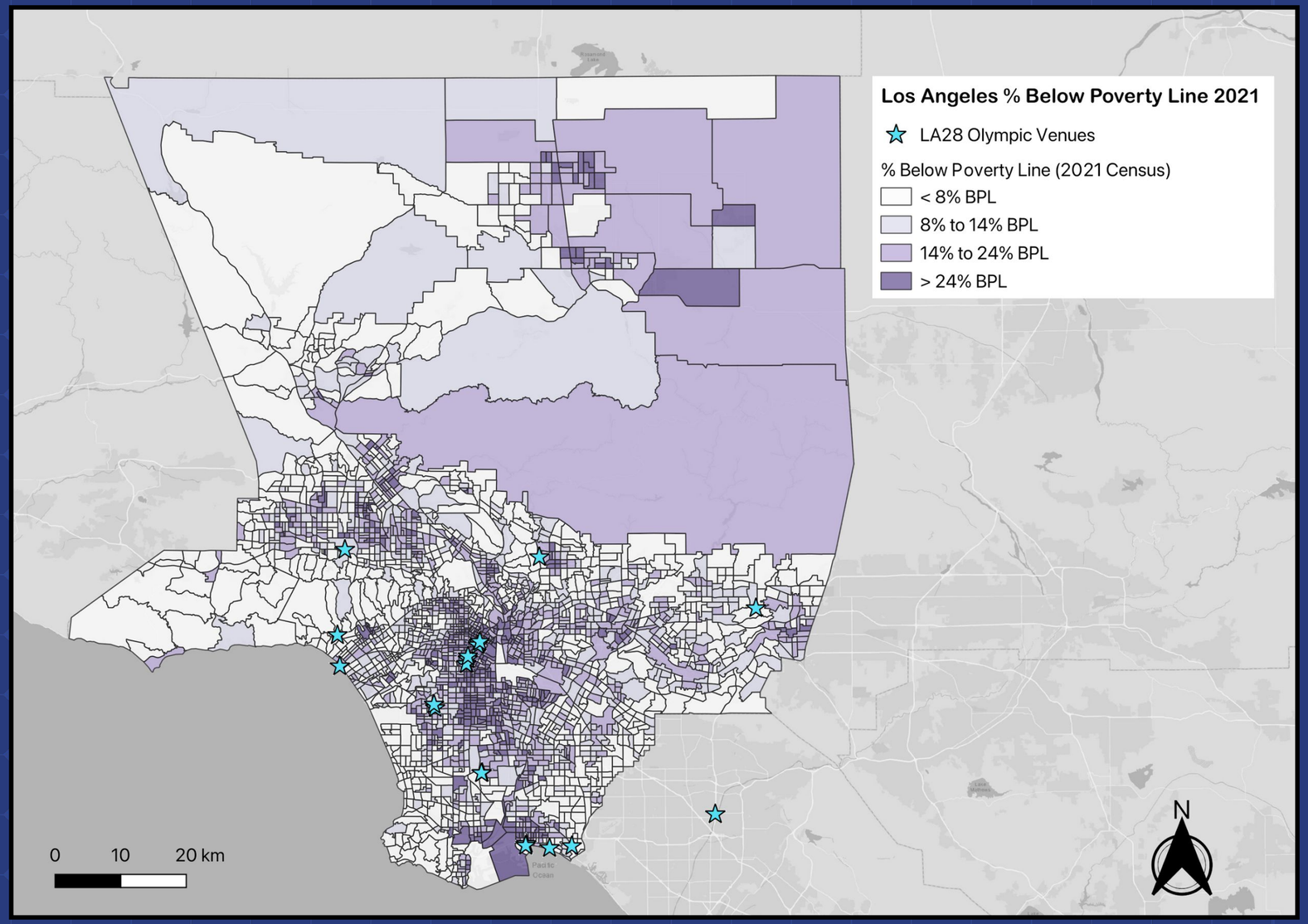
Current Federal Poverty Threshold:

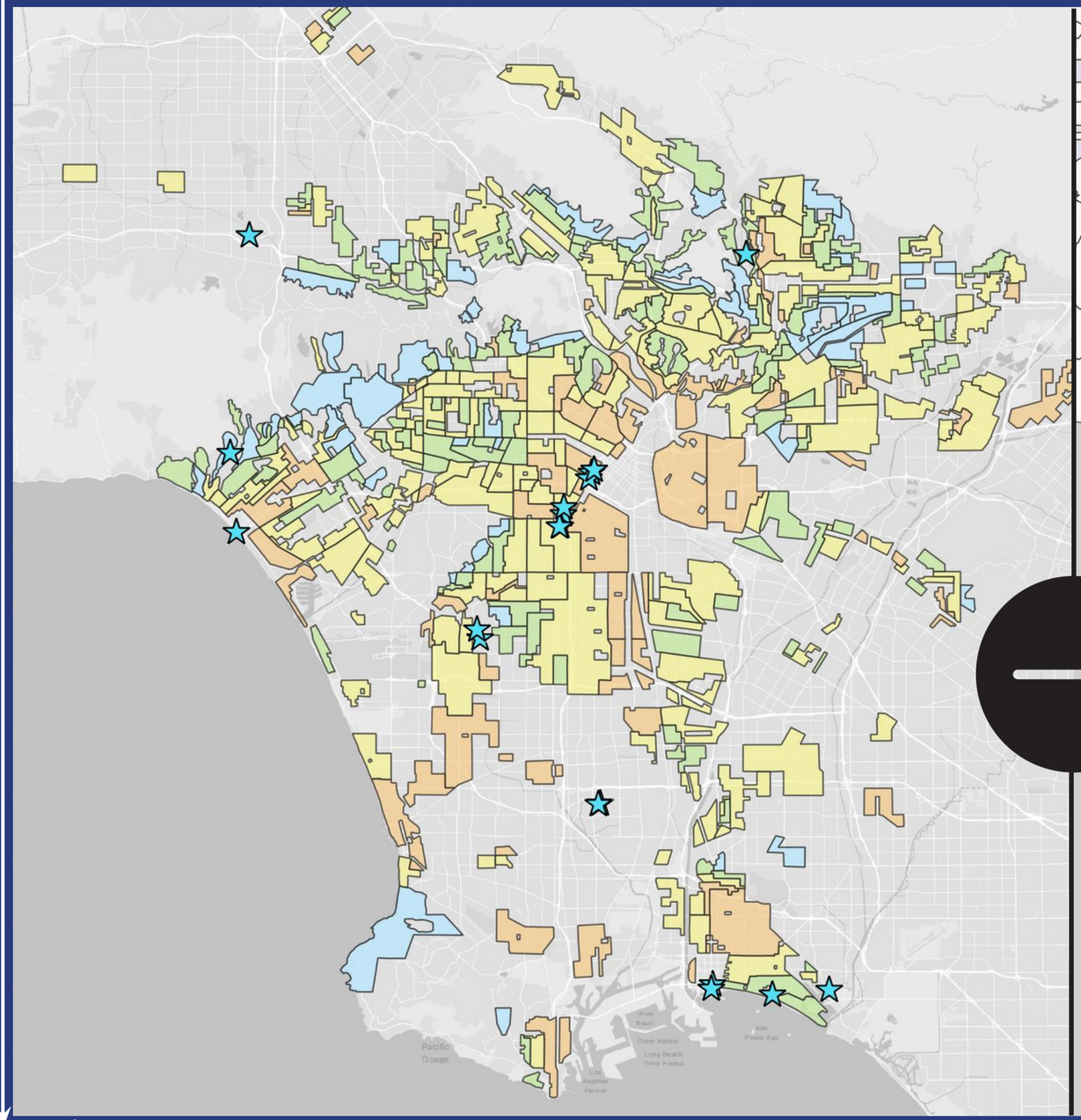
$15,650 – 1 person

$32,150 – 4 persons

Redlining maps don't cover the new areas that are now gentrified.

17% of residents in LA live below the Federal Poverty Threshold

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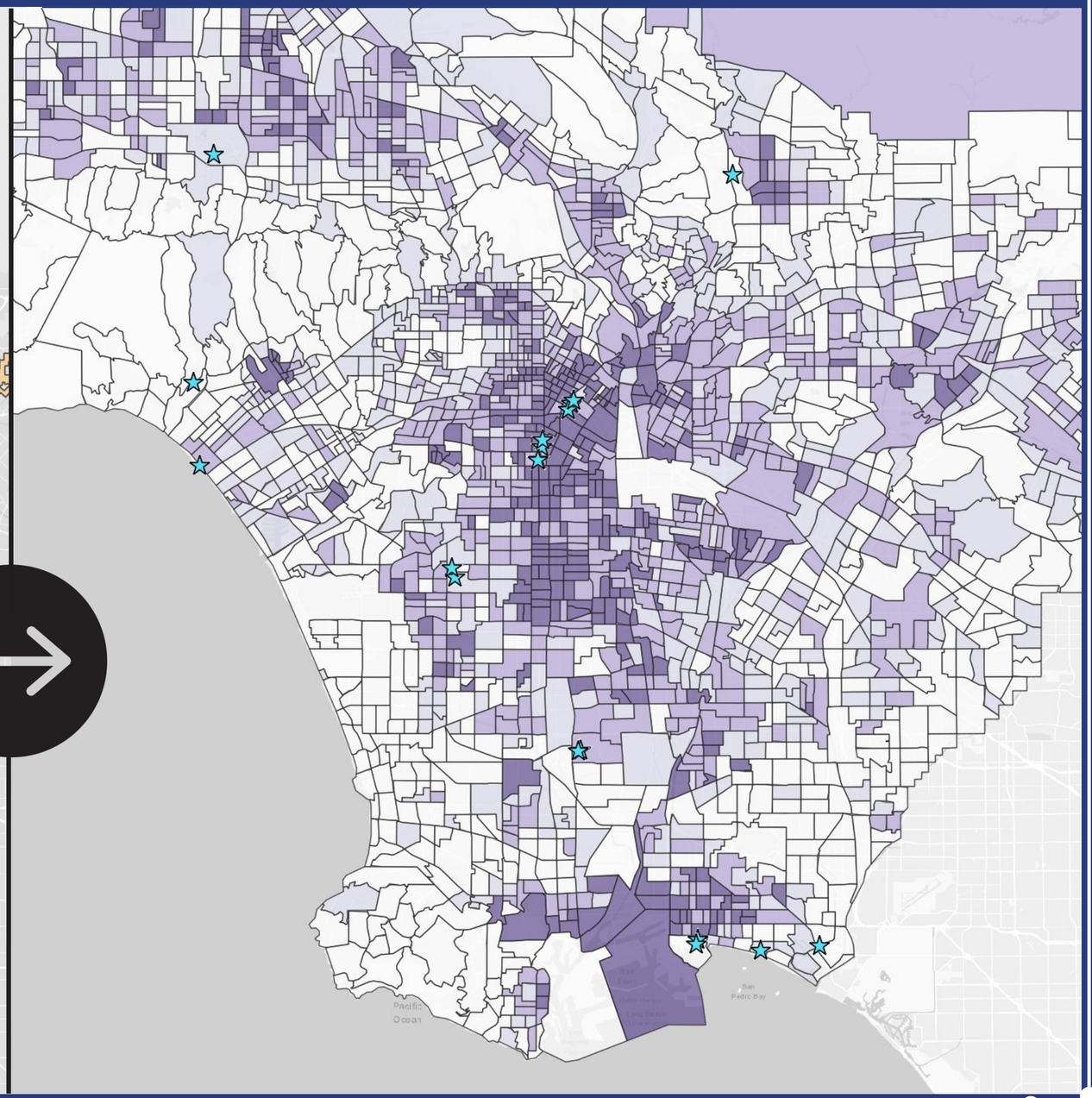
Ocean
West
Basin
Outer Harbor
Long Beach
Outer Harbor
Los
Angeles
Harbor
San
Pedro Bay


Pacific
Ocean
San
Pedro Bay

Injustice in Past Olympic Games

Rio2016

77,000 people forcibly displaced in Vila Autódromo

PARIS 2024

12,500 people displaced outside the city of Paris during the games

NEWS

Incoming Metro line raises fear of high rent, displacement in Huntington Park

“How can we position ourselves in a way that allows us to create housing stability for ourselves?” asks one resident.

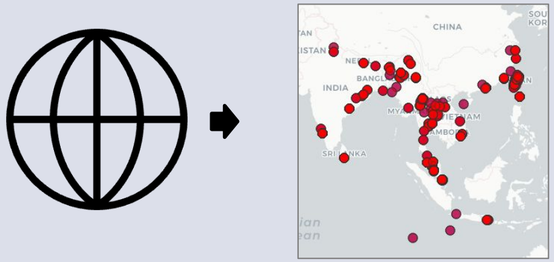
by Amanda Del Cid Lugo
10/18/2024 11:30 am

”

Methodology

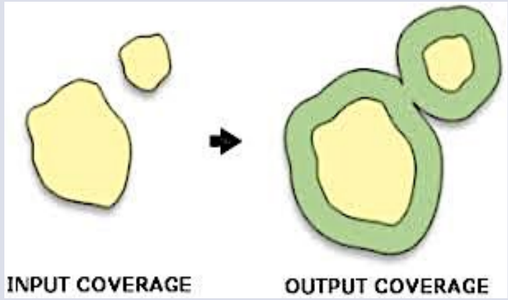
Methodology: QGIS

DIGITIZATION



LA Metro's database contained most of the **shapefiles**, but some only had CSV files that involved some **manual digitization** of stations and lines

BUFFER CREATION



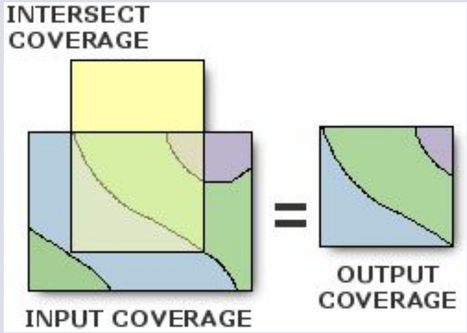
30m buffer: Direct Displacement

*Based on the average width of LA Metro light rail (2 ways)

300m buffer: Indirect Impact

"…Vibrations from freight trains and maintenance operations are reported to be moderately and highly annoying at distances of diesel engines up to 300 m"

INTERSECTION ANALYSIS



Redlining Shapefile:

Intersection with isolated "**C**" and "**D**"

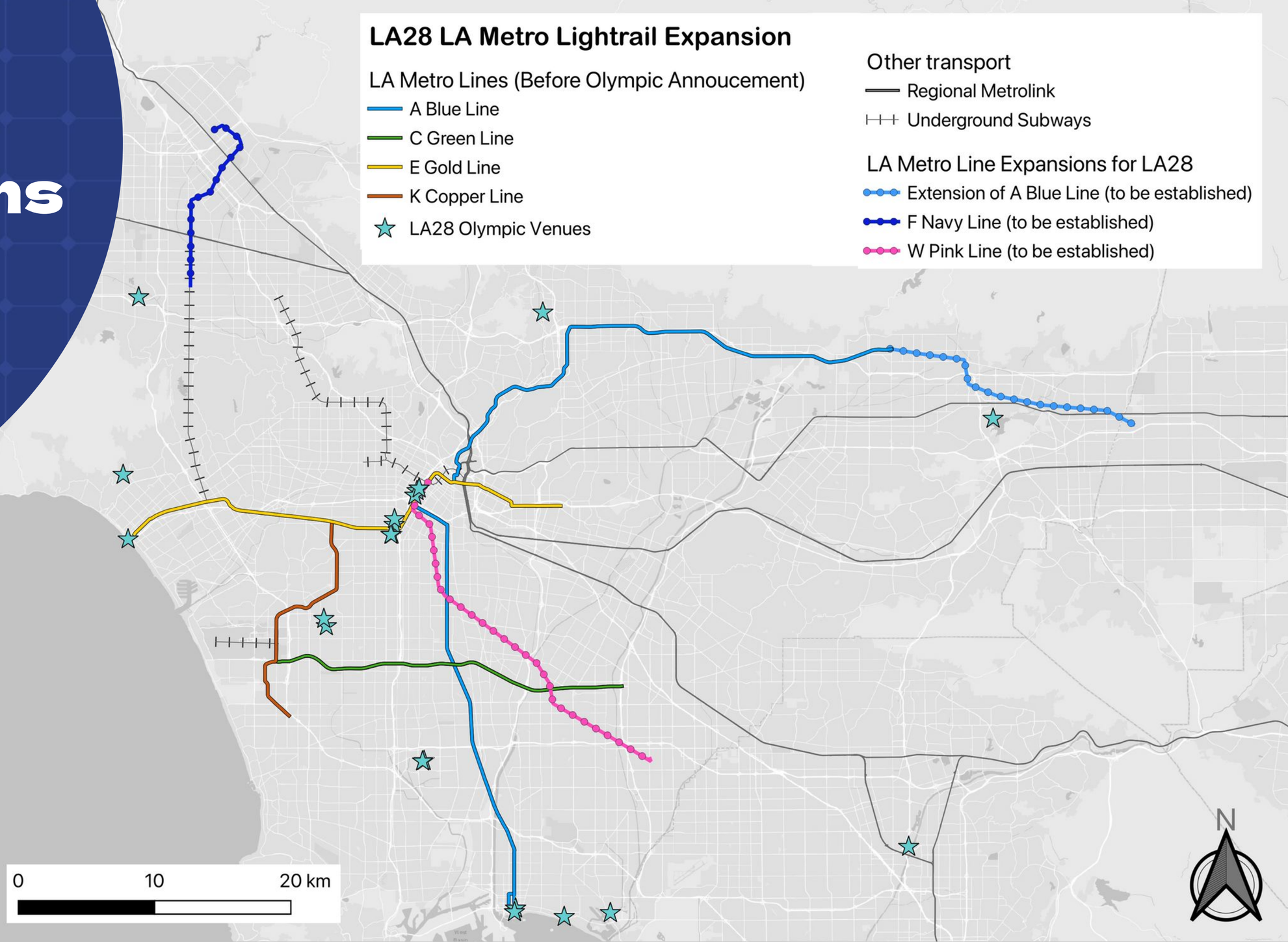
BPL Shapefile:

Intersection with isolated "**14% to 24% BPL**" and " **>24% BPL**"

LA Metro 2028 Plans in GIS

Partionally Funded

Projects Included



Results

Navy Line F

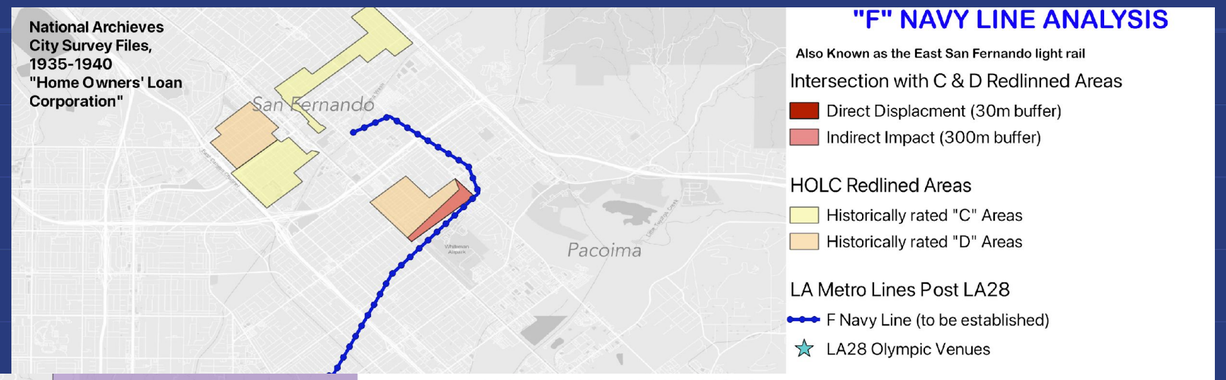
Project Name:

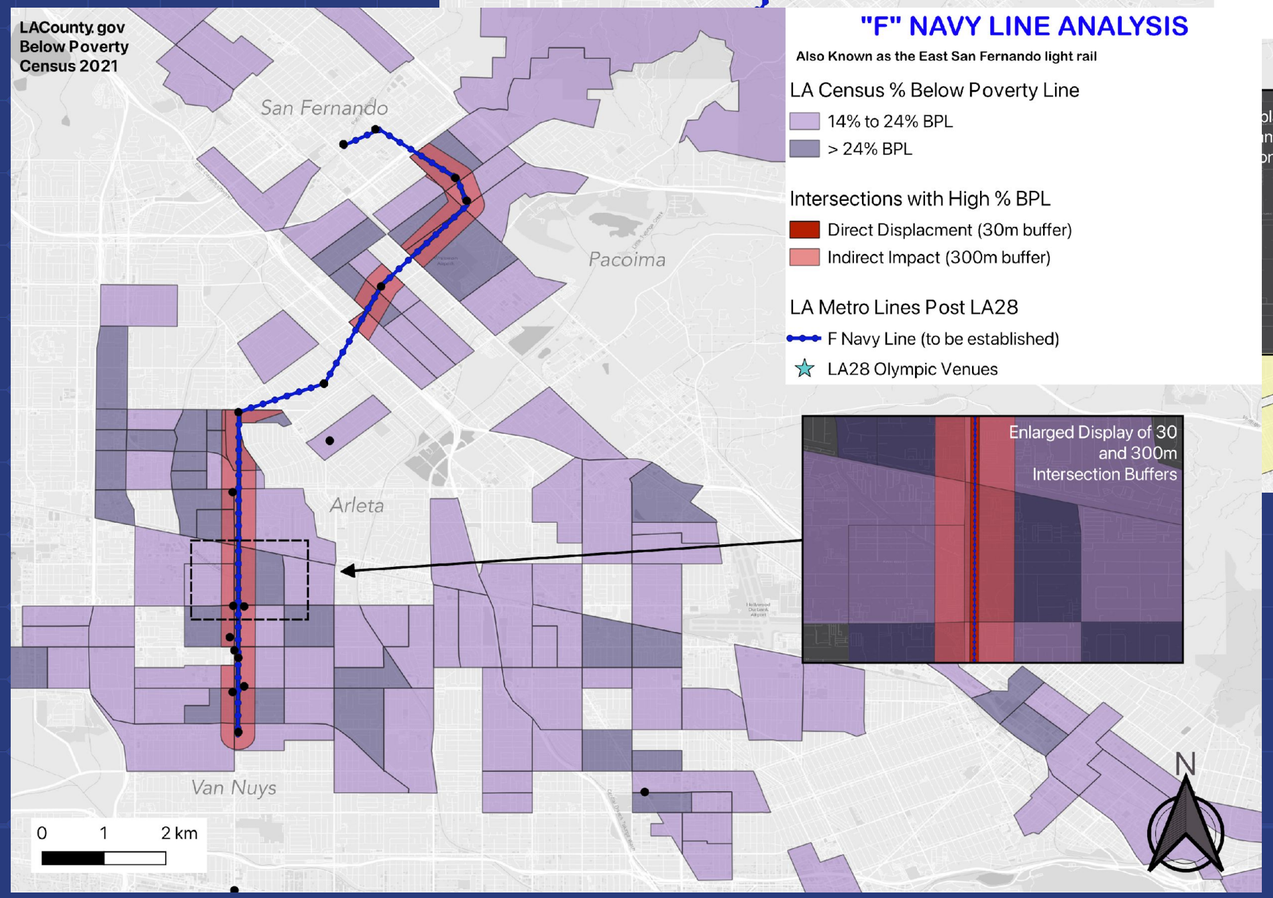
San Fernando East Line Rail

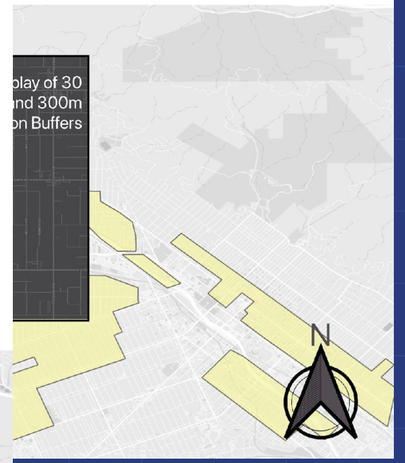
Funding Status:
Partially Funded

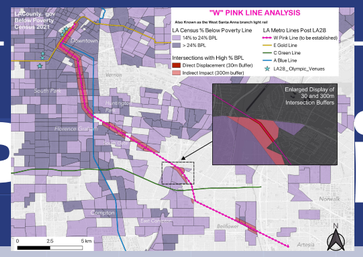
Completion Status::
Engineering Stage

Length:
6.75 miles









P ine W

Project Name:

W. Santa Anna Branch

(Southeast Gateway Line)

Funding Status:

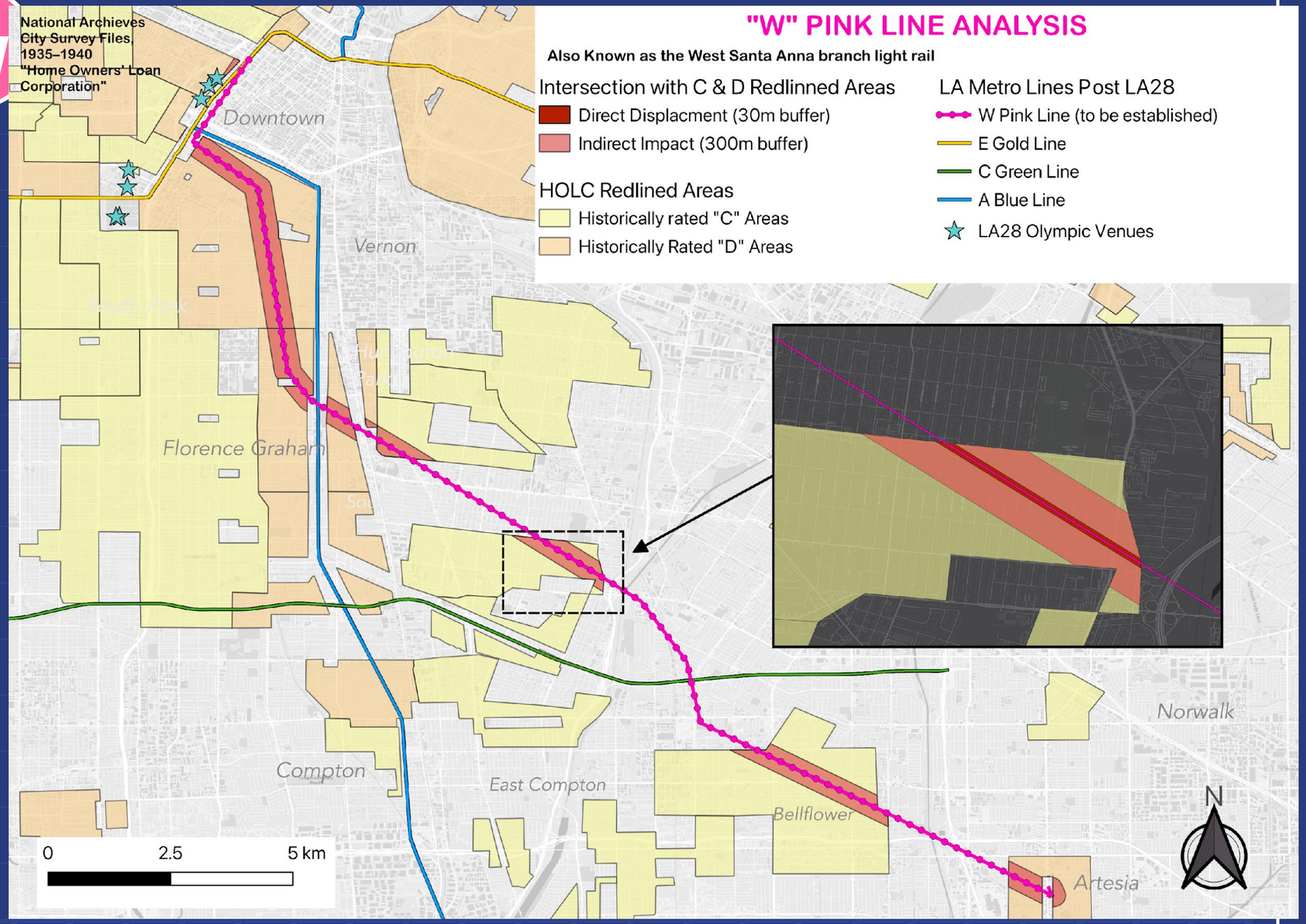
Mostly Funded

Completion Status::

Designing Stage

Length:

14.5 miles



Blue Line Extension A

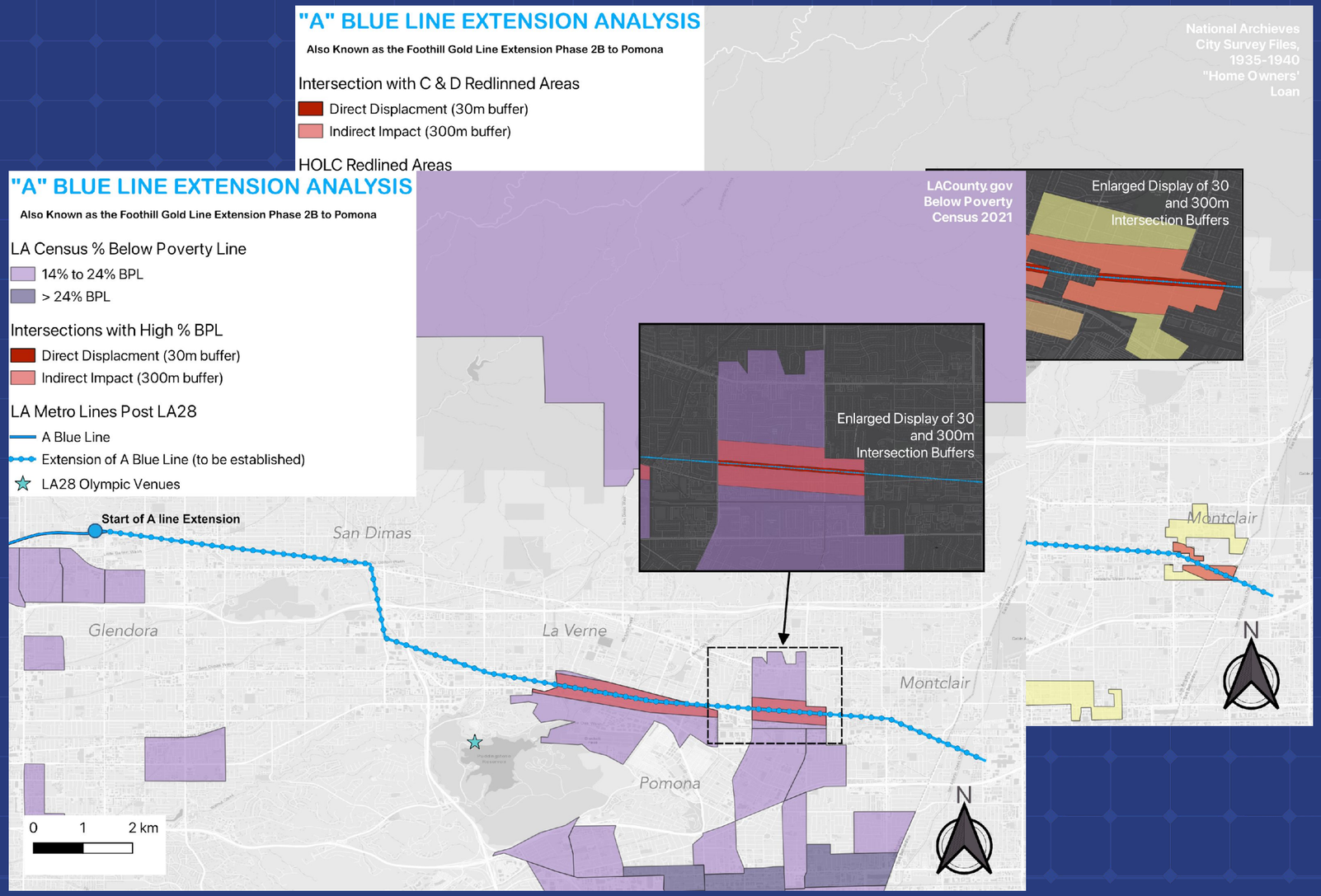
Project Name:

Foothill Gold Line Extension Phase 2B to Pomona

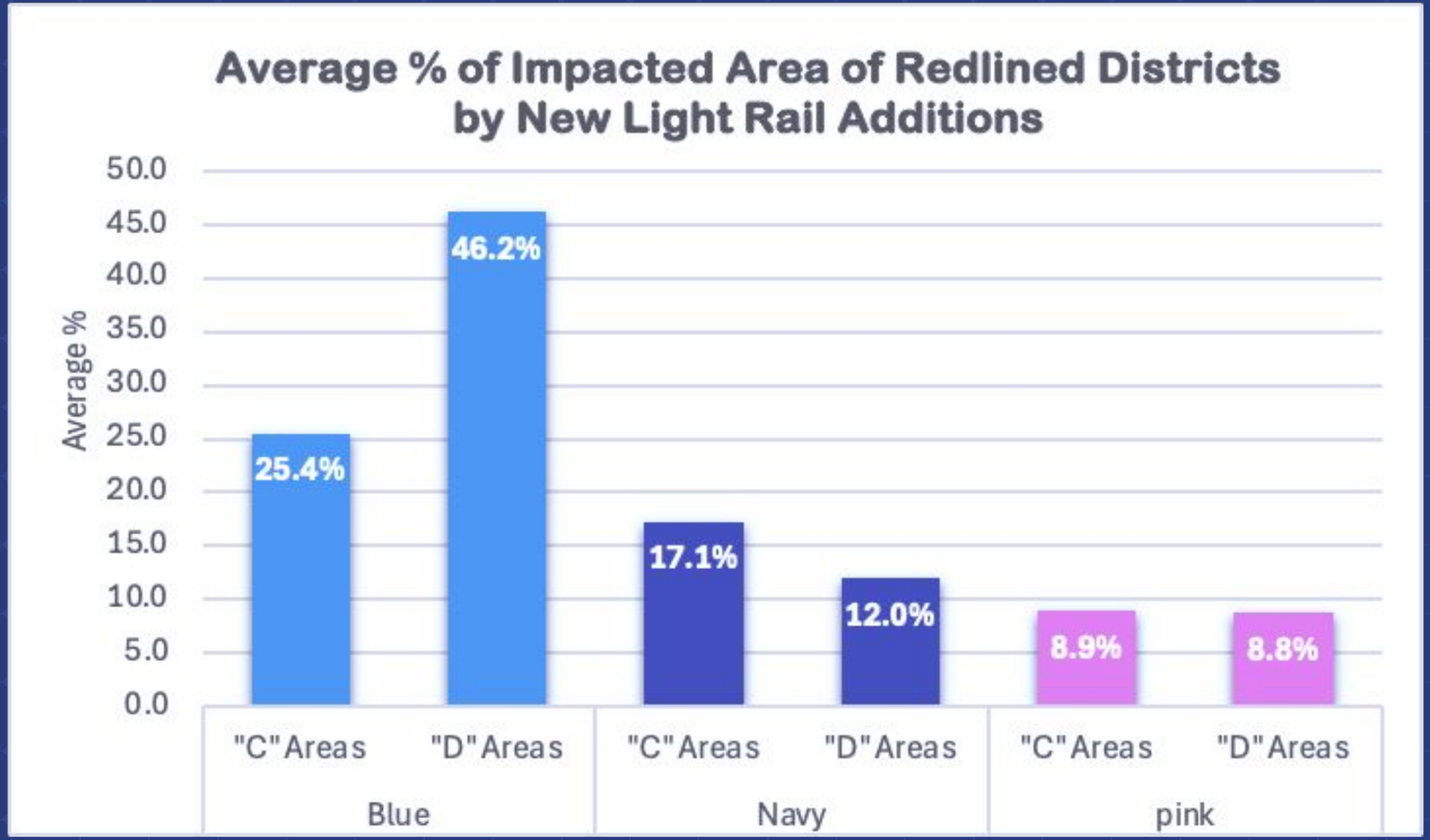
Funding Status:
Completely Funded

Completion Status::
Construction Stage

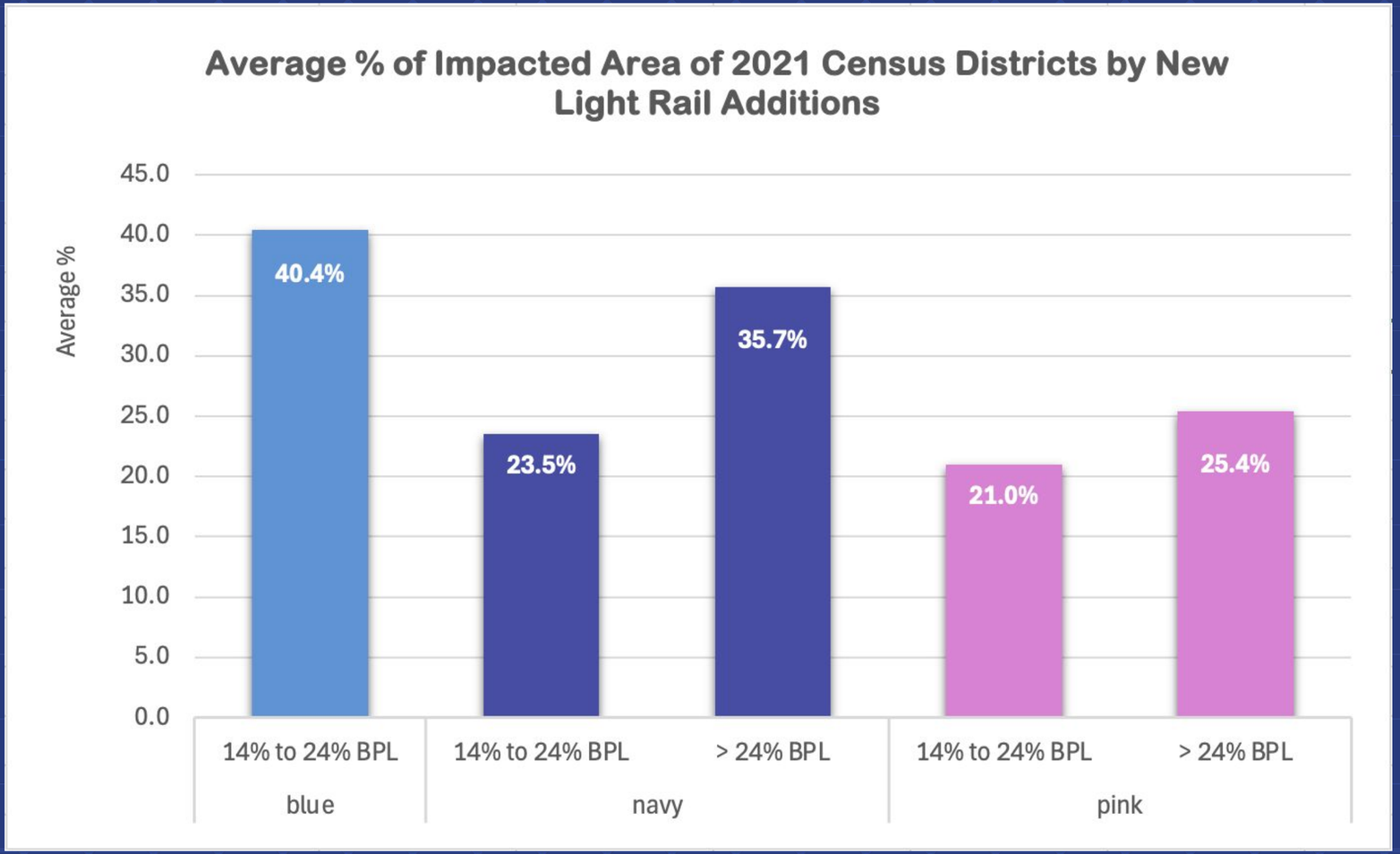
Length:
9.1 miles



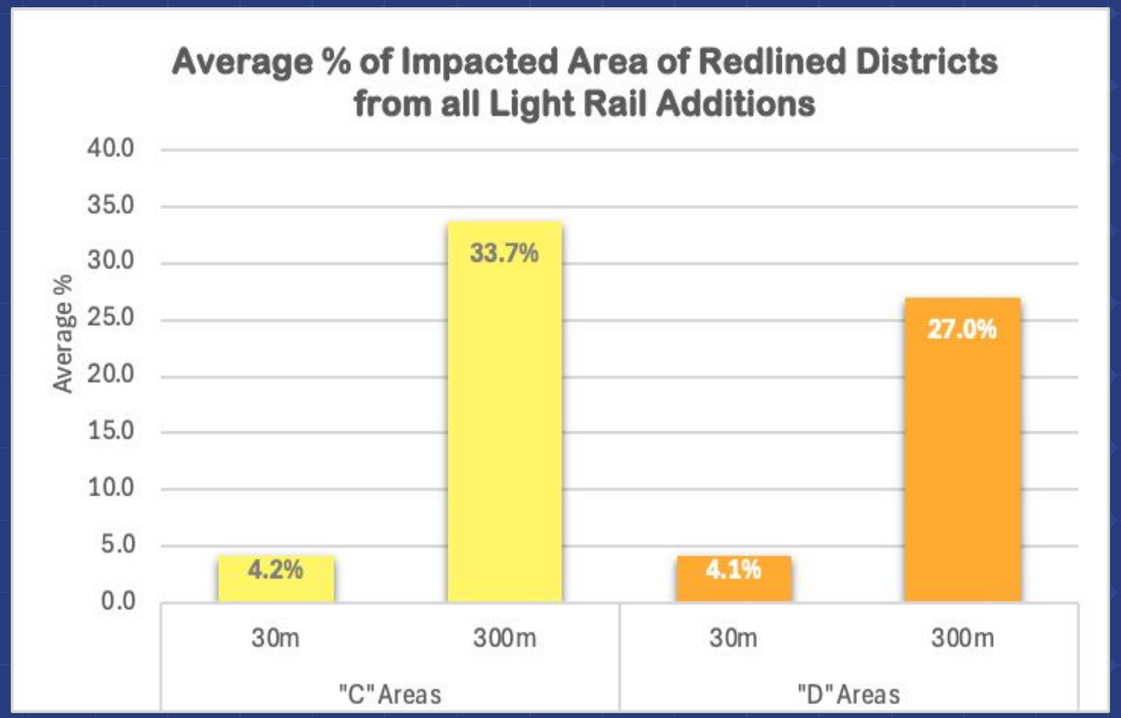
Graphs and Charts: HOLC Redlining

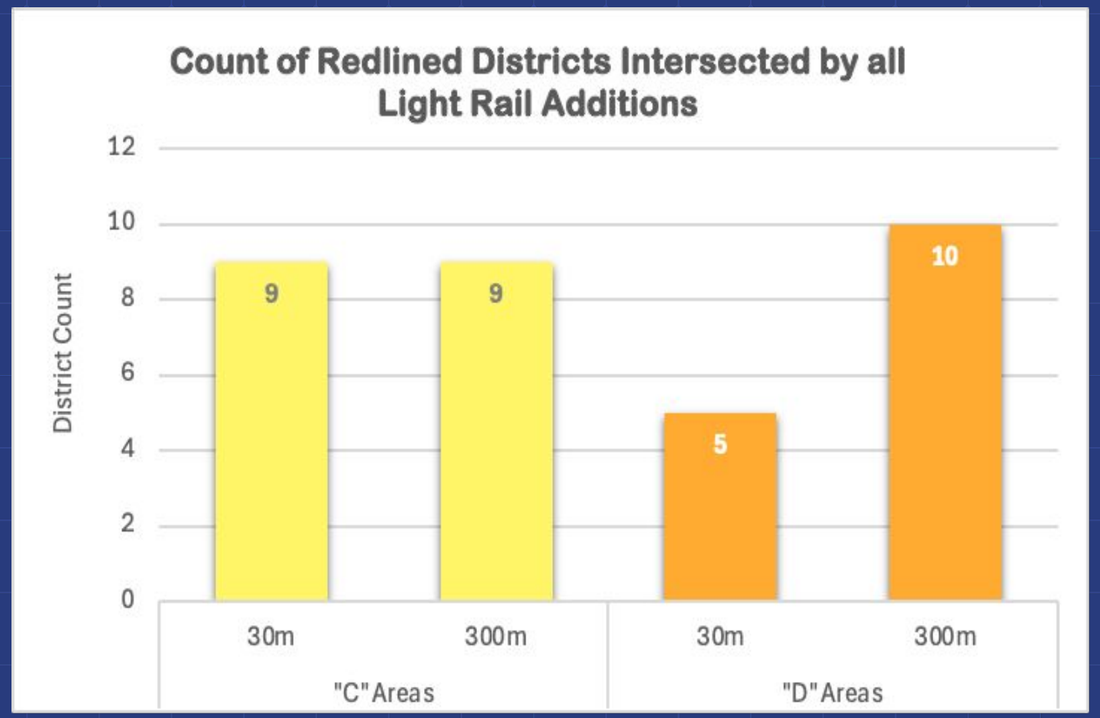


Graphs and Charts: BPL %



Graphs and Charts: HOLC Redlining

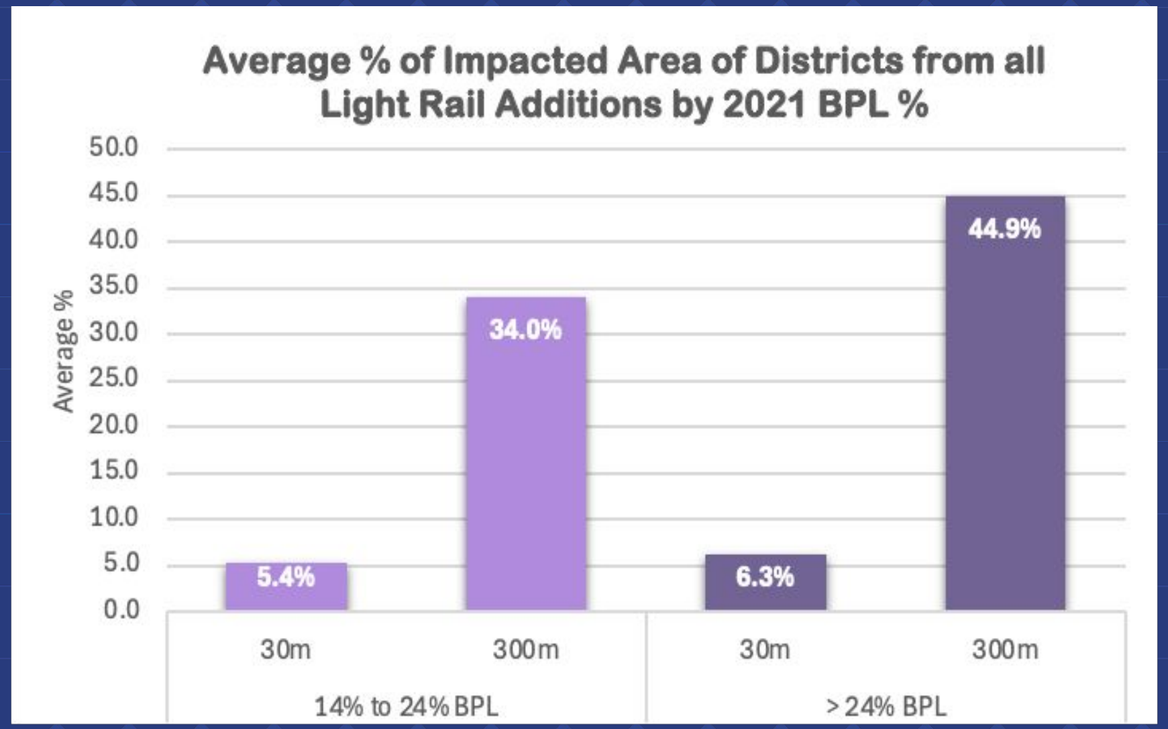


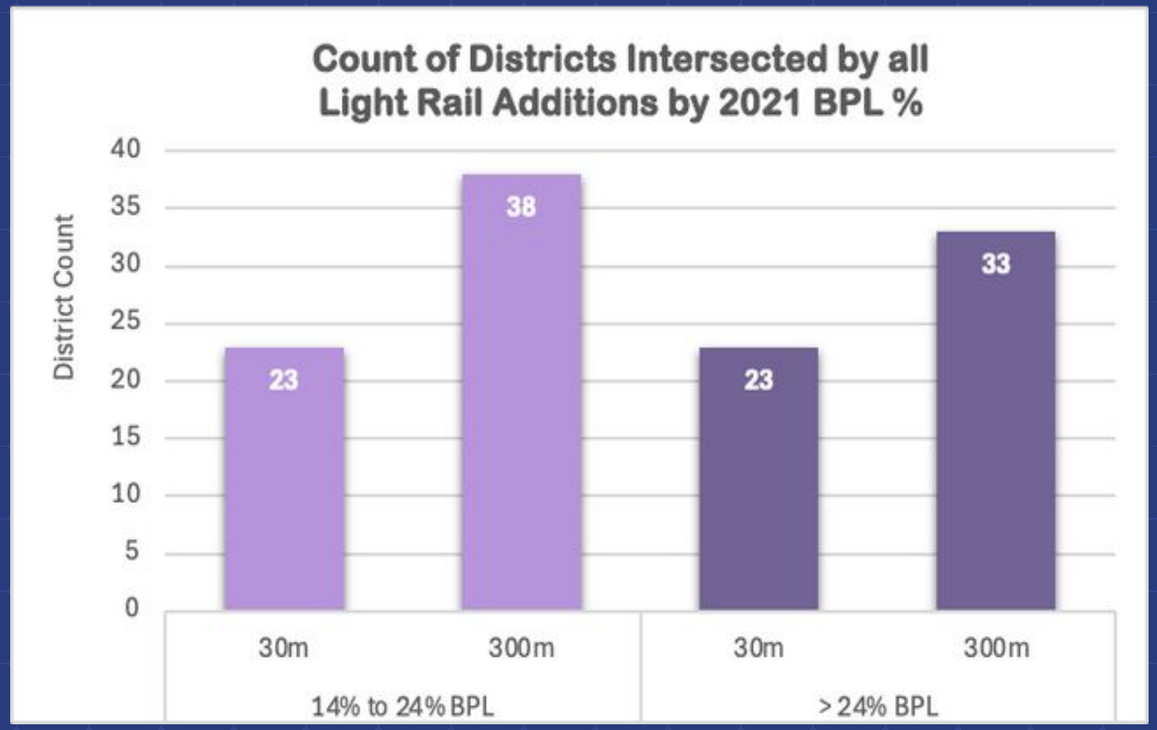


C Definitely Declining

D: Hazardous

Graphs and Charts: BPL %





Interpretations

W PINK LINE

- ✔ **Highest displacement risk**
- ✔ **Both direct and indirect displacement impacts are high**,
- ✔ South LA is near multiple Olympic venues, making transit expansion **strategic for accessibility but also increasing pressure for redevelopment**.

F NAVY LINE

- ✔ **Intersects historically "C" graded areas**,
- ✔ **The San Fernando Valley: transit in closest proximity to wealthy areas**
- ✔ **Potential long-term effect**: Could **reshape affordability in the Valley**, pushing out long-term lower-income residents while attracting new development

A BLUE LINE (extension)

- ✔ Impacts historically redlined "D" areas but **not intersect many current high-poverty zones**
- ✔ Pomona and surrounding areas are **already experiencing transit-driven gentrification**
- ✔ **Expansion enhances regional accessibility**, than existing low-income residents.

Interpretations

Historical Redlining Data

Targeting "C" areas for increased transit access (connect more neighborhoods through indirect impact).

Physical construction (direct displacement) is disproportionately cutting through **historically "D" redlined areas**—areas that were already heavily disinvested and are now being redeveloped.

2021 Census Below Poverty Line Data

This **contradicts the pattern seen in the redlining maps**, suggesting that **High-poverty areas have shifted over time**,

As LA prepares for the Olympics**, transit investment may be less about correcting historic redlining and more about making certain high-poverty areas more "desirable"** for future development.

Are the short term impacts of sustainable innovations justified for their long term benefits

What should future games (and LA28) learn?

Current Events

Trump Administration
2024 – 2028

Drop in Funding:
LA Metro Concern to Fund Pink Line due to lack of federal funding from the Trump Administration
Press-Telegram

Increase in Funding:
"most sports-focused president in modern U.S. history"
Sports Business Journal

Palisades Fire

Drop in Funding:
Concern: funds directed towards aiding wildfire aftermath

Fire costs estimated to be $9.1 – $10 Billion
New York Times

Reflections

Acknowledgements

Appendix