# Vision 2028: Los Angeles' Olympic Dream to Go Metro

# An Assessment of LA's Metro System in 2028

## Background

On September 13th, 2017, Los Angeles was awarded the 2028 Olympics. Major sports events attracts local residents and people from all over the world. As a result, cities go through urban development to make the city friendly.

One of the major efforts the LA Olympic Committee emphasized was public transit improvements. As a result, the city launched the 28 by 28 initiative, which is 28 transit, and street improvement projects.

This project aims to analyze the projected metro rail transit system in LA, which includes 7 transit rail projects. First, the project investigates whether the stops are in optimal areas. Second the project aims to identify if the metro system is designed in a way where tourists and local residents can get to the venues by just using the metro rail system.

# Methodology

Current metro routes were mapped from data on the LA Metro Developer Data Website. Other projected routes' information were gathered from map documents and executive plans. They were either georeferenced or geocoded.

To analyze if stops are in ideal areas, the analysis was done based on employment to population ratio and ridership of public transit. Data used came from 2017 American Community Surveys. Using a field calculator, each tract was given two scores two rankings created a social demographic index map.

The social demographic index map shows the LA metro system will be serving in regions from one to five based on their values on the two variables. A field that added the where demand for public transit is high during and after the Olympics. Second, majority of the stops are in ideal areas for transit oriented development because population density and com-According to available literature, transit oriented development and ridership are mercial zoning density is high. But, the projected LA metro system needs some work in order heavily influenced by land use and population density. Population density was calto mobilize massive amounts of people during the Olympics. According to the table, only 35 culated from information in the 2017 ACS estimates. The original polygon map stops are actually within 1/2 mile walking distance to the venues. In addition, most of the stops was converted to raster. Next, a shapefile containing different types of land use purthat are within 1/2 mile walking distance are all clustered in Downtown Los Angeles. This obposes and a shapefile that represents the 2035 LA Land Use Plan were added. servation shows one area of the county is designed to give easy commute to 12 venues. Zones that were used for commercial and mixed purpose were selected, converted The investigation aimed to provide a detailed analysis. However two lines were omitted beto points, and then converted to raster. The two density raster layers were reclassicause routes were not finalized. In addition, four venues were omitted as current/future lines fied and added using the raster calculator, giving a density index map. would not provide any service to those venues. Lastly, the investigation used zoning data to Lastly, the project investigated which stops were near Olympic venues. Using the calculate commercial density. Building parcel data could have provided a more accurate calcunetwork analyst tool, a service area analysis with a 15 minute walking distance lation of commercial density because building parcels contain data on which buildings are around the stops was performed. The service areas that contained a venue was seused for commercial purposes over the parcel area.

lected, and the stops close to these venues were derived.



There seems to be a correlation between employment to population ratio and use of public transit. Lower employment to population ratio mean people use public transit more.



The higher percentages of people who use public transit live near stops and closer to central Los Angeles. Living near a stop can be an attractive alternative to private transportation.



# Results



Regions w/ high scores mean employment is low and percentage of people who use public transit is high. Frequent transit users live near transit stops. Stops that are close to Olympic venues are in regions of high scores.



There is a good amount of stops that are near regions where population density is high. The 5 bounds are 2917, 9116, 17869, 34279, and 92,992 people per square mile.

# Conclusion

Overall, the combination of current and new lines will benefit the Los Angeles residents and visitors during and after the Olympics. It will help the two groups get around the bustling scenes and attraction sites of the city. But the project shows that the projected metro rail system would do a mediocre job in transporting people to venues outside of the downtown region of the city. As a result, the project recommends the city to reconsider routes of new lines or offer express bus services from the closest station near the venue to the venue itself. If not, it places more pressure on people to accommodate for their modes of transport.

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Data Sources: Zoning data from LA Geohub, Metro LA Developer, 2017 ACS data from Census Bureau, location of venues from LA2028 website, Future Projects Plans from LA Metro

**Tufts** 

**Projection**: Lambert Conformal Conic

Coordinate System: NAD 1983 2011 State Plane California V FIPS 0405



A good amount of stops are near areas with high amount of zones that are used for commercial purposes. Since hotels are considered part of commercial zones, there is a good chance that tourists will stay near a station.



The transit system passes through areas of high population and commercial zoning density. It is interesting to see that a majority of Olympic venues close to stops are in central LA, where both densities are high.



