

Proposed LA28' Bus Line Findings

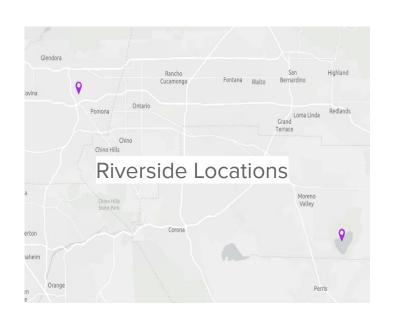
ensuring efficient and direct access for athletes and associates, while promoting sustainability and hazard mitigation?"

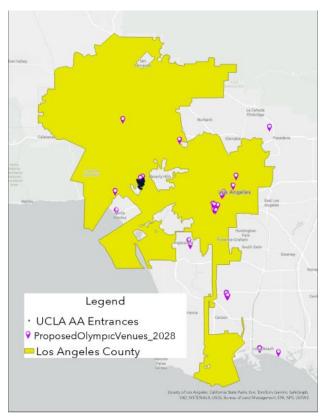
"How can the Los Angeles 2028 Olympic transport plan

maximize the number of open transit lines between the

Olympic Village (UCLA) and Olympic venues while

ArcGIS Geoprocessing Tools and Spatial Analysis





ArcGIS Process

Process Timeline



Collect Data

I collected data for the County of Los Angeles, the UCLA Campus, the transit routes, and the venue sites. My sources were arcgisonline.com and LA Metro, with some insight from members at Deloitte the Olympic Committee. By using tools like clip, and merge I was able to limit my data to LA county and make them more easy to manage.

Buffer and Intersect Analysis

I used Buffer and
Analysis to narrow my
bus lines to ones that
collide with Olympic
Venues and the Olympic
Village. The Buffer
used for this
initially was a
Service Area tool with
limits on 5, 10, and
15 mins walking
distance to bus stop.

Route Analysis

I then used a Route
Analysis to map the
most efficient
route to these
venues. I merged
all the bus lines
and eliminated
multiline transit
to create efficient
results.

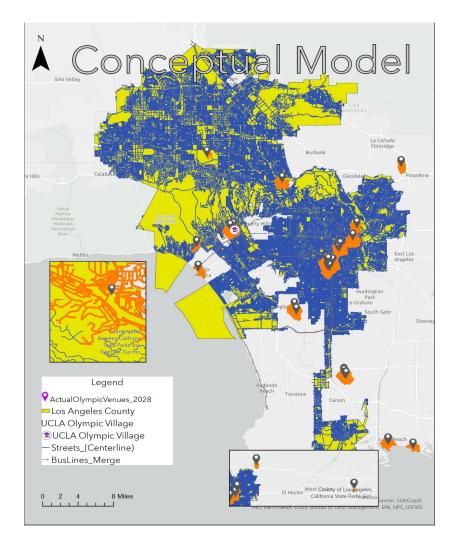
Data Clean-Up with Spatial Querying tools

Amongst the tools used, the most gratifying ones used was dissolve and selecting by attribute using SQL coding to calculate the number of event venues at each location to verify how many venues these bus lines connected to.

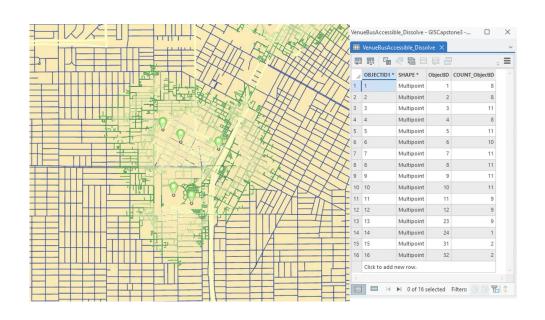
Present Findings

The preliminary results are presented in this paper.

Conceptual Model



The Use of Dissolve on the Venues.

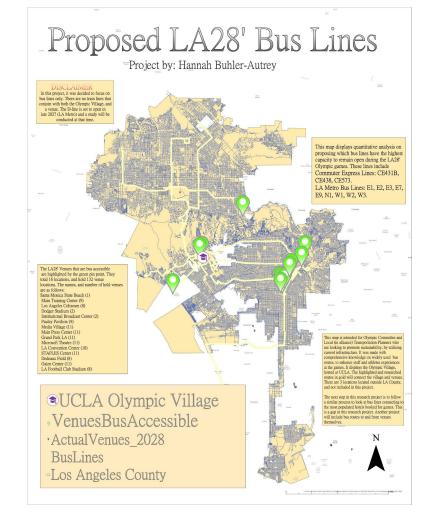


Final

Commuter Express Lines: CE431B, CE438, CE573.

There are **9** LA Metro Bus Lines to be kept open, They are

LA Metro Bus Lines: E1, E2, E3, E7, E9, N1, W1, W2, W3.



Map

Problems

01	Not enough time	 Because the D-Line train is not yet open, I wasn't able to add trains to the map that met my criteria. In 2027 however though, it opens another research project. Because I limited my Research area to LA County only, there wasn't enough time to find "direct routes" to the venues outside of LA county.
02	Not enough correspondence between this project and Los Angeles County Government.	• If there was access to see how the Local Government is preparing for the Games, it could have changed some of my variables, specifically the largest one: the LA Street Map.
03	Lack of transit communication and risk in high capacity situations.	 If I had access to Local Transportation Planners I could modify the tools I use. Also, there is no assurance that LA Metro or Commuter Express will stay open for the games. The increase in tourism during this time frame might cause company property damage, and poses a risk for safety in the County.

Obstacles (Continued)

Finding Data was **difficult at first**, but after a few weeks I found what sources gave me the best quality information. I gather everything from **ArcGIS pro**, **and LA Metro**. I also was able to get information to verify my proposed location map from the **Olympic Committee**.

I was then referred to a transportation manager/GIS team member at the **Olympic committee** who gave me useful insight on my project, and tips on next steps. This included a critique on the focus toward the Olympic Village for athlete and staff experience. I was **recommended to broaden my search around hotels in the area that also will be used for the same purpose, but they were unable to provide specifics on hotel location data.**

My final map also does **not include** an **appropriate legend**. I was not able to symbolize it properly, so the symbols on the legend are much smaller than they should be. The map layout creation was the most frustrating.

Findings and Moving Forward

Further Research

- How does the restructuring of public transit affect the populations health? (A mimic to the Atlanta 1996 Health Study can be recreated."
- How useful will public transit be for Olympians and staff during the games?
- When venues can Olympians and Staff staying at hotels reach by bus in LA County?



Works Cited

- Hannah Buhler-Autrey. "Proposed LA28' Bus Lines" [Tabloid Layout], 1:97,136, "GISCapstoneJPEG", 11/18/2024
- Noorbhai, H. (2022). Public transport users have better physical and health profiles than drivers of motor vehicles. *Journal of Transport & Health*, *25*, 101358-. https://doi.org/10.1016/j.jth.2022.101358
- Li, Y., Wang, W., Wang, J., Zhang, X., Lin, W., & Yang, Y. (2011). Impact of air pollution control measures and weather conditions on asthma during the 2008 Summer Olympic Games in Beijing. *International journal of biometeorology*, 55(4), 547–554. https://doi.org/10.1007/s00484-010-0373-6