

First Year Students Research Challenge

Executive Summary

While there is no unanimous agreement as to what cities constitute the conceptual region of the Inland Empire (IE), it is usually considered to consist of the cities of San Bernardino and Riverside County and sometimes considered also to include some of the cities of East Los Angeles County, such as Pomona, San Dimas, Claremont, and La Verne. It has more than four million people, which is greater than the population of 23 states.

The region is highly dependent on private vehicles, with around 80% of the population commuting to work alone in their car, while approximately 10% carpool and less than 4% use alternative modes of transportation to commute to work (SCAG, 2019). This, along with the fact that 12% of the population of Riverside and 15% of the population of San Bernardino spend more than an hour in their daily commute, and Los Angeles County is the third and second-biggest employer for the counties, respectively (SCAG, 2019), it is clear to see that mobility and accessibility is an essential aspect of this region.

In addition, the logistics industry is very prevalent in the area, with many warehouses residing in the IE. The industry's influence is related to air quality and the creation of jobs, 'which is often a topic of discussion for leaders in the region. While several factors are driving the influence of the industry in the region, it is still essential to consider this prevalence when discussing sustainability and equity in transportation for the IE.

First, it was important to have a literature review that defined the concepts of sustainability and equity in transportation in a manner that confidently applied to the IE and gave a complete overview of the most recent research on transportation in the region. While sustainability in transportation has been a topic that has been explored more in-depth and thus, is much better defined in the public conscience, the same is not valid for equity. Defining equity required

researching many different ideas on defining equity in transportation that had different goals and ways to apply them. By defining transportation equity in terms of accessibility, the understanding of the role of transportation is that it is only a means to an end (Grengs, 2019). While this may seem like an obvious truth, proponents of accessibility as transportation equity argue that many of the current policies and mindsets instead seek for mobility to be understood as the ability to move as fast as possible rather than the ability to reach destinations one desires (Litman, 2002; Levine et al., 2012; Dumbaugh, Tumlin, and Marshall, 2014; Grengs, 2019). This former mentality has led to many inequities, particularly by benefiting private cars above alternative modes. Thus, our definition of equity in transportation values all people's access to places they want to go regardless of their mode of transportation.

In addition to defining sustainability and equity, an extensive literature review of the most recent research on transportation in the IE was necessary. This review found literature that focused on several topics often talked about by policymakers, such as the area's economic development, the expansion of the logistics sector, the struggles and potential remedies to air pollution, among others.

With such a large population and dependence on private car commute, it is vital to fully understand the region's cities' policies and other circumstances that play a role in shaping the transportation system. Therefore, three separate projects were created to measure or analyze different aspects that shape this region.

A scorecard was designed to quantify the cities' efforts in the IE. This scorecard used the policies enacted by the cities themselves and other data available online. The Inland Empire Scorecard aims to quantify and score the cities' efforts on three aspects related to transportation in the Inland Empire. These three aspects are transportation, sustainability, and equity.

The transportation section scores the safety and mobility options for users. These consider the jurisdiction's active transportation, transit, and personal vehicle usage. The existing transportation efforts of the region are assessed through its active transportation plans, travel time to work, and vision of zero commitments.

Sustainability in transportation aims to reduce environmental impacts, contribute to economic stability and growth, and sustain social and cultural values. These efforts are assessed by implementing objectives such as habitat mitigation plans, trip reduction strategies, and zero-emission vehicle sales and ownership.

Equity within transportation deals with accessibility, aiming to provide users the necessary access to resources such as job centers and essential services without compromising their health and needs. These equity goals are assessed through efforts such as environmental justice plans, anti-racism ordinances, and respiratory and cancer risks.

Sustainability and equity are interrelated concepts wherein initiatives need to be taken for lasting impacts on the transportation systems within the Inland Empire.

After finding the information for the different criteria and contacting the public records offices of each city to ensure we had the correct info for all the categories, a score within 1-10 was given to each city for all categories. Last, the overall score of the cities was calculated by considering all the criteria together. Scores of 4 or below are considered not to meet expectations, scores between 5-7 are within our expectations, and scores of 8 or higher are above expectations. The results show plenty of room to grow for many cities. However, while many cities have made steps for sustainability, having a higher average score in the equity and transportation criteria, there were much lower scores on average.

The second project was a series of panels featuring leaders and experts from different fields related to transportation. As part of this panel, the groups and industries interviewed are private industry, transportation, and planning agencies, distribution management, elected officials (politico), public transit experts and leaders, and environmental justice leaders.

The opinions, philosophies, and beliefs of leaders and experts can significantly influence wisdom about a region. Further, to create practical solutions to the problems of sustainability and equity in the IE, it is necessary to understand the needs and wants of different industries and groups. This series of panels and analysis seeks to find what these philosophies and opinions are. The panelists were first asked what sustainability and equity meant in their respective industries. From there, the conversations developed according to questions tailored specifically for each industry of the attendees.

These panels allow for a succinct overview of different industries' opinions on how to create and foster a sustainable and equitable transportation system. Naturally, different industries had different concerns and ideas about reaching these goals. Some of the most discussed subjects were the impact of the logistics industry in the region, the role and funding of infrastructure, and the advancement in technology to reduce emissions.

Last, an analysis of the job accessibility in Riverside and San Bernardino County was done. This project had two goals in mind. First, to compare the level of accessibility in different parts of the IE. For example, the difference in accessibility between the cities in the west end of the IE and those in the Coachella Valley. The second goal was to compare the accessibility between driving and transit. This was to learn how a lack of a car can affect someone's economic opportunities. The results show that when it comes to accessibility to jobs by car, it depends on geography more than any other factor. Cities on the west of the IE overwhelmingly had the most jobs accessible within a 30-minute drive, while 15-minute accessibility to jobs was more even in other regions. Accessibility to jobs via transit was 14 times less than accessibility via car.

These projects serve as an overview of city policies, leaders' opinions, job accessibility, and car dependency. Together, they serve to paint a picture of where the Inland Empire is in terms of sustainability and equity in transportation. While more research is still needed to make the best possible policy solution, this should be a step toward having a just transportation network in the IE.

References

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