AUTO ISOLATION THE RESHAPING OF INFRASTRUCTURE, SOCIETY, AND SPACE WITH AUTONOMOUS CARS

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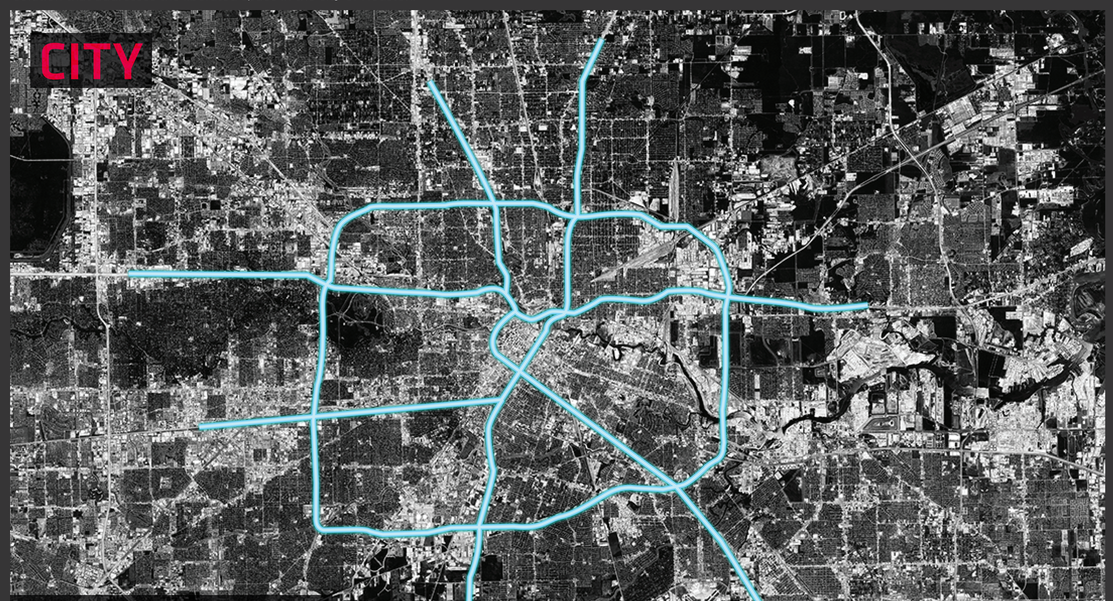
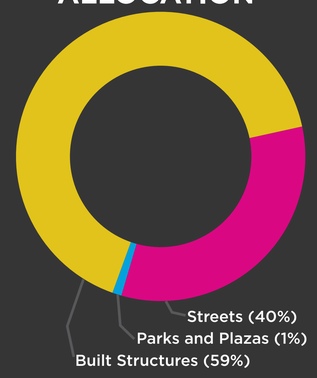
The car was a vital part of American society and identity. Tradionally, driving one signified one's right of passage and allowed the user freedom and status. Cities have evolved around automobiles with freeways and parking lots dictating the spaces of human participation. According to theorist Jane Jacobs, this independence produced a detrimental result: social isolation. The development of autonomous vehicles presents a potential remedy to this problem via the decrease in spatial needs of cars. Autonomous vehicles liberate space to find new purpose devoted to people and public life. By examining various examples of human and car occupied urban space in Houston on multiple levels, along with the time and productivity lost in commutes, the impact of autonomous vehicles on the future development of cities may be seen. The autonomous vehicle disrupts the current norm of city growth, allowing people to rethink the future development of space in American cities. When the need for location based use as well as ownership is no longer required, car storage and maintenance can become centralized, freeing up valuable space for the occupation of humans. The application of this research proposes a design solution that addresses the liberated space in the city of Houston.

CITY



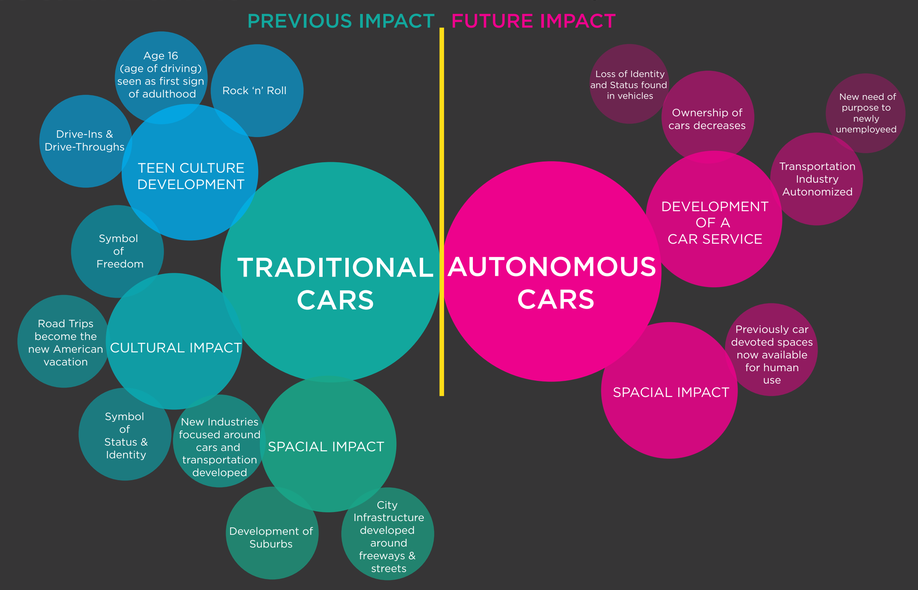
The city of Houston has an extensive network of freeways totaling in over **575.5 miles** of concrete.[1]

HOUSTON SPACE ALLOCATION[4]

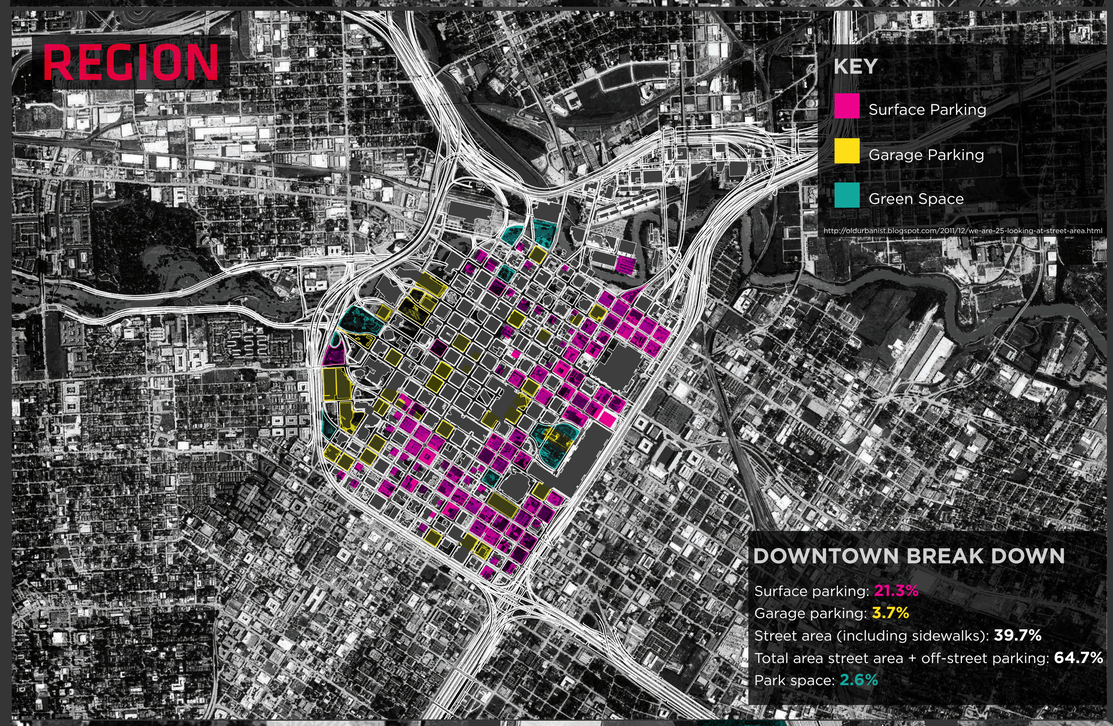


SOCIETAL IMPACT

Cars have been a long-standing focal point of American society and a major influencer of culture. Autonomous vehicles would force a restructureing of how Americans view themselves.[5]



REGION

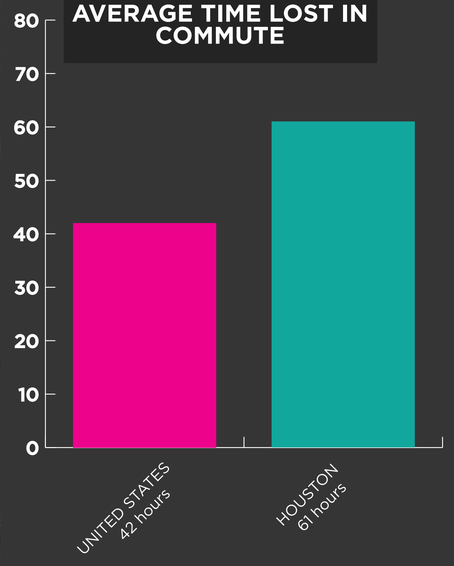


http://olduranist.blogspot.com/2011/12/we-are-25-looking-at-street-area.html

DOWNTOWN BREAK DOWN

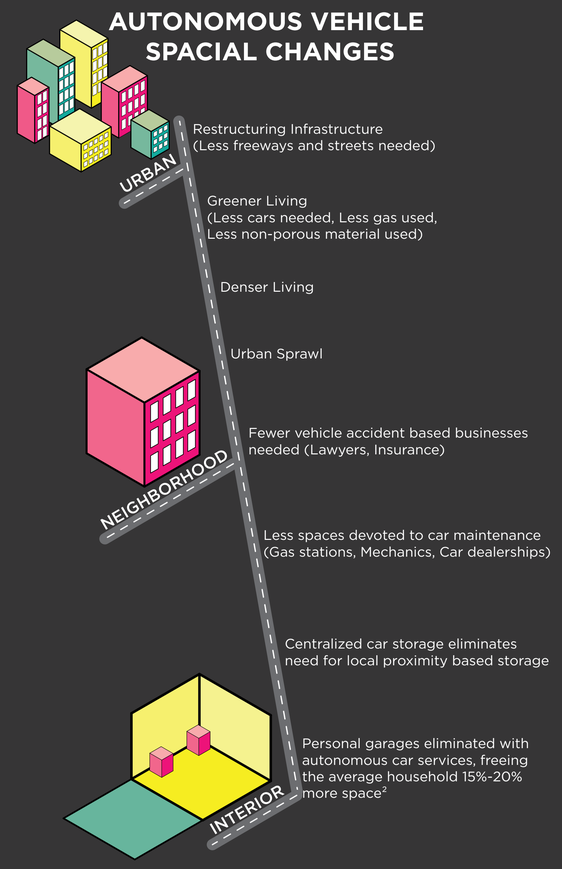
Surface parking: **21.3%**
Garage parking: **3.7%**
Street area (including sidewalks): **39.7%**
Total area street area + off-street parking: **64.7%**
Park space: **2.6%**

AVERAGE TIME LOST IN COMMUTE



The **transportation industry** employs **603,500** jobs as of July 2017 in Houston, making it the largest employer in the metropolitan area.

AUTONOMOUS VEHICLE SPACIAL CHANGES



HUMAN IMPLICATIONS

PERSONAL

- Less traffic produces a more efficient commute time
- Autonomous vehicles allow a productive commute
- Shorter, more efficient work days, due to less time wasted in transportation
- More time allowed to be devoted to recreation
- Autonomization of transportation jobs causes major job loss in Houston's largest employment industry
- Need for new purpose becomes a concern for laid off workers

COMMUNAL

- More recreation space opens up for human use as the spacial need for cars decreases
- Potential increase in human interaction and socialization

SITE

SUBURBS 2506 Lively Ln Sugar Land, TX 77479

APARTMENT 4400 Memorial Dr Houston, TX 77007

HIGH RISE 2016 Main St Houston, TX 77002

POTENTIAL FUTURE

As portrayed by FXFOWLE

[1]http://www.houston.org/economic-development/facts-figures/transportation-infrastructure/index.aspx
[2]Finding, Deborah. "How self-driving cars will profoundly change real estate." CNBC. May 2, 2017. Accessed August 28, 2017. https://www.cnbc.com/2017/05/02/how-self-driving-cars-will-change-real-estate.html.
[3]"How the Automobile Shaped America: Culture." Historic Vehicle Association. July 9, 2013. Accessed September 12, 2017. h ttps://www.historicvehicle.org/how-the-automobile-shaped-america-culture/.
[4]http://1.bp.blogspot.com/-B7Ot15y05n0/TuQNIAxkS0I/AAAAAAAAAYw/-alceltcLdA/s1600/Built_footprints.jpg