Alternative Uses for Parking Lots in Anticipation of Autonomous Vehicles

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If Autonomous Vehicles are going to happen, what positive impact can we have from their use if we plan ahead?

Los Angeles County has more than 18 million parking spaces.

51% of Los Angeles County population lives more than 0.5 a mile from an open green space.

In 2017, 57,704 persons in Los Angeles County experienced homeless in any given night.

Predictions show that autonomous vehicles, when widely used, will decrease the need for parking spaces for 30% of the current need.

What will happen to the other 70%? How can it help our communities?
Open Green Spaces

- Map the parking lots and structures per community
- Map the need for open green space in each community
  - Overcrowding
  - Population per Square Mile
  - Parks per Square Mile
- Separate the parking lots and structures in the needed communities
- Separate the parking lots and structures of significant size for open green spaces

Affordable Housing

- Map the parking lots and structures per community
- Map the need for affordable housing in each community
  - Overcrowding
  - Population per Square Mile
  - Rent Burden
- Separate the parking lots and structures in the needed communities
- Separate the parking lots and structures of significant size for affordable housing
51% of LA County’s population lives beyond 1/2 mile of a park

Facilities are not equitably distributed and some communities face more burden than others

The low availability of open green spaces overlaps with areas with high density and overcrowding

This results in a high number of residents sharing minimal open spaces

Source: Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment
57,704 persons in LA County experience homelessness on any given night in 2017. A number significantly higher than the 8,492 counted for 2010.

The American Community Survey for 2016 estimates that 31.6% of the households in LA County have yearly income lower than $35,000.

Households with lower income experience higher rent burden with the increase in rent prices. This results in a population potentially facing homelessness in the future years.

“Los Angeles County needs 551,807 more affordable rental homes to meet the needs of its lowest-income renters.”

Both analysis showed similar needed regions with high number of parking lots

One overlay zone was created to focus the attention of this study

The overlay zone has a extensive overlap with one of the SCAG Concerned Communities

All the numbers on the findings were collected from inside the overlay zone
For the purpose of this research, parking lots were divided into 3 groups:

- Less than 5,000 square feet
- 5,000 to 10,000 square feet
- More than 10,000 square feet

<table>
<thead>
<tr>
<th>5,000 to 10,000 square feet</th>
<th>more than 10,000 square feet</th>
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<tbody>
<tr>
<td>When considering parking lots and parking structures between than 5,000 and 10,000 square feet inside the determined overlay zone:</td>
<td>When considering parking lots and parking structures larger than 10,000 square feet inside the determined overlay zone:</td>
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<tr>
<td>5,627 units were mapped</td>
<td>1,591 units were mapped</td>
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<tr>
<td>with a total area of</td>
<td>with a total area of</td>
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<tr>
<td>46,991,924 square feet.</td>
<td>39,025,791 square feet.</td>
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</tbody>
</table>
Parking lots and structure into the “5,000 to 10,000 square feet” category were selected for open green space.

5,000 to 10,000 square feet

If 30% of these parking lot and structures continue with the current use and the other 70% are divided equally between open green area and new developments, these areas will experience an increase of

16,447,173 square feet of open green area

divided into

1,969 new units for the surrounding neighborhoods.

Parking lots and structure into the “More than 10,000 square feet” category were selected for affordable housing.

more than 10,000 square feet

If 30% of these parking structure continue with the current use and the other 70% are divided equally between affordable housing and new developments, these areas will receive

13,659,026 square feet of affordable housing.

Taking an average of 400 square feet per unit and 5 stories buildings

151,767 new units can be added to the area.
551,807 housing units are needed in the Los Angeles County

151,767 housing units can be added only inside the overlay zone

1,969 open green spaces can be created in communities with low access to green spaces

- More and smaller overlay zone can be created to suit the future use of those parking facilities according to the need of each community
- Strong policies are needed
- Seeks to orient future redevelopment of unused parking lots, not change the current use of it
THANK YOU!

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