Shanghai
Mobility On Demand Urban Implementation Case Study
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In the ten years to 2000, the length of roads increased by 40 per cent, and the number of cars quadrupled to just over one million. Official predictions state that by 2020 Shanghai will have 2.5 million private cars, and that daily motor vehicle trips will increase to seven million compared to just over three million in 2000.
Urban Morphology

The City is categorized by low-scale high-density housing called Li-long. Shanghai’s rapid development and its highly valued downtown land resulted in every street facade reserved for commercial activities. This can be expressed by an old Shanghai saying: “An inch of space in the street frontage designates a life-time of fortune”. However, the prosperous commercial space was challenged by great influx of migrants as to where to allocate the huge population without interrupting the spatial continuity of commerce along the main street-facade? how to maintain Shanghai’s first appeal as “ten miles of commercial streets”?

Transport System

In China, there are 1.8 bikes per family, yet municipal governments eager to encourage industrial growth repress bicycles in favor of cars.

-Ralph Gakenheimer

In Shanghai, there are seven main transport systems - bicycles, scooters, cars, buses, subways, trains, and water transportation system.

Shanghai today is facing rapid urbanization as the economic boom in China roars on. The higher standard of living in Shanghai means that many of its inhabitants want to own a vehicle. City governments are now encouraging higher ownership of vehicles by setting forth policies that benefit large-scale infrastructure.

Issues

Mobility Issues in Shanghai include:

- Shanghai is currently congested and vehicular traffic is in the rise
- The Lilong housing style is currently threatened by newer developments
- Pollution becomes a major problem for residential dwellings
- The ‘last mile’ for those traveling into the historic center is problematic.

Scooter

1 million cars but two-thirds of private journeys in Shanghai are by two-wheeled vehicles such as bicycles and scooters. Larger motorbikes have been banned in the historic center.

Bicycle

Shanghai is building 180km of dedicated bike lanes, especially in newly built areas like Pudong, where bicycles will be segregated from scooters.

Metro

Since the mid-1990s, it has built an extensive metro system, with five lines, now used by 1.8 million people per day, and it is now planning six new lines.

If it carries out all its plans, the length of the system will exceed London’s, the world’s biggest.
SUBURBAN AREAS

7 suburban districts and Chongming County (island)

11 satellite cities of 200,000-500,000 pop.

22 large towns of 50,000-100,000 pop.
Shanghai is a large city with an area of 7,037.50 km².

Its population in 2008 was approximately 20 Million and the density of the city is approximately 3,154 per km².

Shanghai has around 1 million cars, but this number is rapidly growing.

Bicycles are still the number 1 means of transportation in the city. There are currently 14 million bikes in the city and at 2003, it was estimated that this number was growing at a rate of 1 million bikes per year.
400 meter diameter / 5 minute walk time from public transportation

Transport Island

Shanghai Transport Islands
Case Study: Shanghai

- **Transportation Radii**
  - 2 km
  - 5 km

- Bike and Scooter
- Pick Up and Drop Off
- Mobility Hub with Cars, Bike, and Scooters
Lilong Housing Districts
During the Shanghai’s rapid industrial development there was a need for a new style of mass housing. That and its highly valued downtown land resulted in every street facade reserved for commercial activities.

The Challenge became how to house all these new inhabitants while not interrupting the spatial continuity of commerce along the main street-facade. These districts are all within the study area for Shanghai, creating places that would be good to place the new transportation systems that.

Lilongs vary in size from 0.35 to 5.0 hectares, its housing units are attached and are two or three storied high. Furthermore, they have one side lane at the front and another service lane at the back. The whole settlement has a couple of main lanes running through the center, which are used as the major circulation passages, and are accessible from the commercial streets. The side lanes, leading to each housing units, connect to the main lanes.

The urban lay-out give privacy to the interior while making a vibrant commercial street frontage possible. Although, the interior streets of the Lilongs can create their own urban experience with interior commercial space.
In this scenario the Lilong chosen is near a subway stop and has a lot of commercial activity within it. The cars would be placed on the road, replacing roadside parking, allowing for 3 times as many cars as were there before.

The bikes and scooter would be placed inside the Lilong itself taking advantage of the population living within it. The combination of these three transportation systems allows for maximum flexibility. Placing the new transportation system within the system also allows the Lilong to survive as an urban form.

Similar economic pressures that created the Lilong are now endangering it, as taller buildings are replacing them. Part of the reason is the car boom Shanghai is experiencing and the fact that they do not provide much parking. This new transportation gives the Lilong a new amenity that could make them a more appealing housing choice.