FORUM THNS 2018

第十一届可持续发展城市交通系统论坛



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副主席一城市与区域规划技术层面

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THE CURRENT REVOLUTION OF URBAN MOBILITY

当下城市机动性的革命

Business-as-Usual Scenario

20th Century Technology

Through 2050, we continue to use vehicles with internal combustion engines at an increased rate, and use transit and shared vehicles at the current rate, as population and income grow over time.

2 Revolutions (2R) Scenario

Electrification + Automation

We embrace more technology. Electric vehicles become common by 2030, and automated electric vehicles become dominant by 2040. However, we continue our current embrace of single-occupancy vehicles, with even more car travel than in the BAU.

3 Revolutions (3R) Scenario

Electrification + Automation + Sharing

We take the embrace of technology in the 2R scenario and then maximize the use of shared vehicle trips. By 2030, there is widespread ride sharing, increased transit performance—with on-demand availability—and strengthened infrastructure for walking and cycling, allowing maximum energy efficiency.





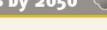
Number of Vehicles on the Road by 2050







CO2 Emissions by 2050



= 500 megatonnes of CO2



4,600 megatonnes



1,700 megatonnes ◆ ◀ ⁷⁰⁰ megatonnes

A TRIPLE REVOLUTION IS HAPPENING IN MOBILITY

移动性正在发生三次元的改革:

ELECTRIFICATION 电气化 + AUTOMATION 自动化 + SHARING 共享化

= 250 million vehicles

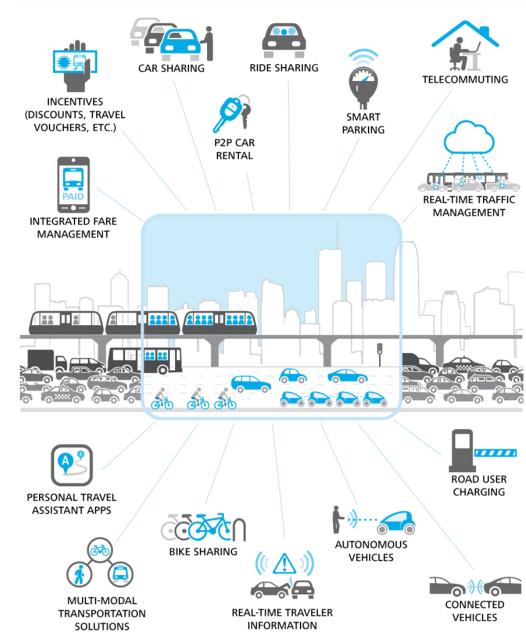
THE CURRENT REVOLUTION OF URBAN MOBILITY

当下城市机动性的革命

The coming generation of urban transport systems connect transportation modes, services, and technologies together in innovative new ways that pragmatically address a seamingly intractable problem.

Several existing systems of mobility improvement should be more connected, such as:

- •Car sharing (stations)
- •Smart parking
- Tax incentives
- •Multimodal solutions
- •Bike sharing
- •Real-time traffic management



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200 PEOPLE IN 177 CARS SWITCH TO BIKES, BUSES & METRO

200人使用177辆小汽车,转变为使用自行车、公交车&地铁 Voici 200 personnes dans 177 voitures



Smarter commuting choices lead to LESS SPACE CONSUMPTION for mobility and less pollution.

But the remaining empty space also attracts INDUCED MOBILITY DEMAND.

SHARED USED MOBILITY IN TRANSITION 共享机动性与城市转型的健康发展 THE CURRENT REVOLUTION OF URBAN MOBILITY 当下城市机动性的革命



FROM TRANSPORTATION TO MOBILITY AS A SERVICE (Maas): 从交通变为移动性服务(管理即是服务)

Digitization and connectivity are transforming our understanding of space/time relation and our daily decisions for commuting

数据化和连接性正在转变我们对于时空关系的理解以及 出行交通的决策方式

By making collective decisions (as a chain of data-informed individual decisions), we become smarter communities potentially using space in a healthier way

通过集体决策(一系列数据支持的个体决策链条),我们的社区变得更加智慧,人们也逐渐开始以更健康的方



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FROM SHARING ECONOMY TO SPECULATION ?

More space available also mean: Induced Mobility = more cars on the roads (negative impact)

OR a better urban metabolism = healthier people

更多可用的空间同时也意味着:诱发潜在的移动性=更多的道路汽车(消极影响):还是:更好的城市新陈代谢=更健康的人类

	Shared bicycles	Registered users
Beijing	2.4 million	11 million
New York	10.000	236.000

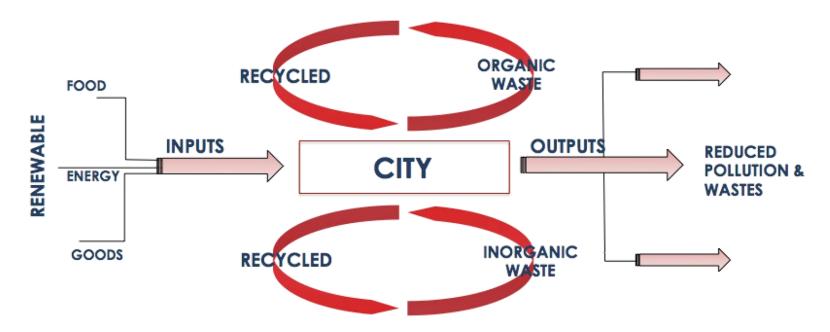
Bike-Sharing Proliferation:

16 to 18 million free-floating bikes have filled the streets of China, operated by 60 companies.

In 2016, 2,5 billions km have been made with Mobike free-floating bicycles. Those trips represent 610.000 tons de CO2 if done by car.



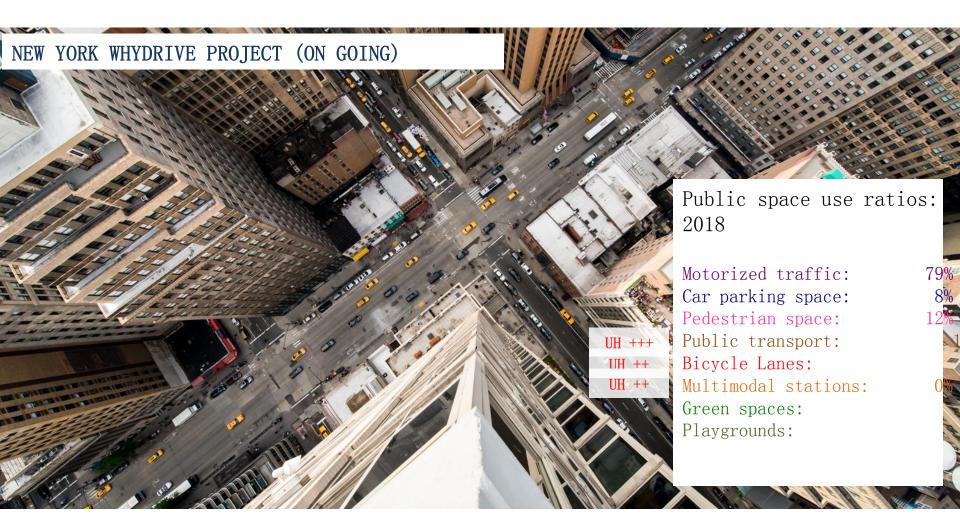
HOW A HEALTHY URBAN METABOLISM CAN LINK ECONOMY & LIVABILITY 健康的城市新陈代谢如何连接经济和宣居性



THE CIRCULAR ECONOMY CAN BE DEFINED AS AN ECONOMIC SYSTEM OF **EXCHANGE AND PRODUCTION** WHICH, AT ALL STAGES OF THE PRODUCT LIFE CYCLE (GOODS AND SERVICES), AIMS AT **INCREASING THE EFFICIENCY OF RESOURCE** USE AND DECREASING THE IMPACT ON THE ENVIRONMENT WHILE DEVELOPING THE **WELL-BEING OF INDIVIDUALS**

循环经济是一种以资源的高效利用和循环利用为目标,按照自然生态系统物质循环和能量流动方式运行的经济模式。循环经济以尽可能小的资源消耗和环境成本,获得尽可能大的经济和社会效益,从而使经济系统与自然生态系统的物质循环过程相互和谐。

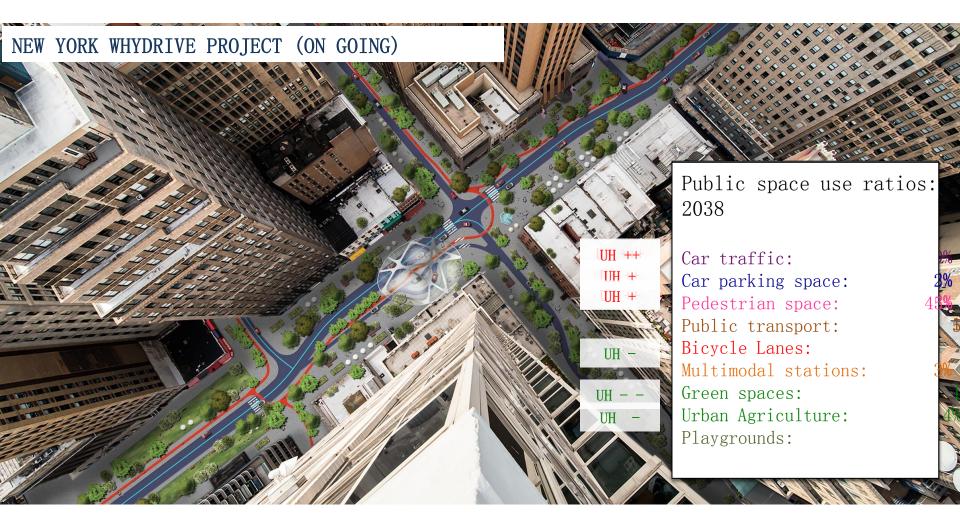
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EXISTING SITUATION

LOOKING AT THE IMPACTS OF ORGANIZED AND LIMITED SHARED USED MOBILITY OF SPACE USE IN A CORE AREA OF MANHATTAN (5 sq.KM)

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PROJECTED SITUATION:

CORE AREA RESERVED TO PUBLIC TRANSPORT + SHARED & ELECTRIC SELF-DRIVING CARS

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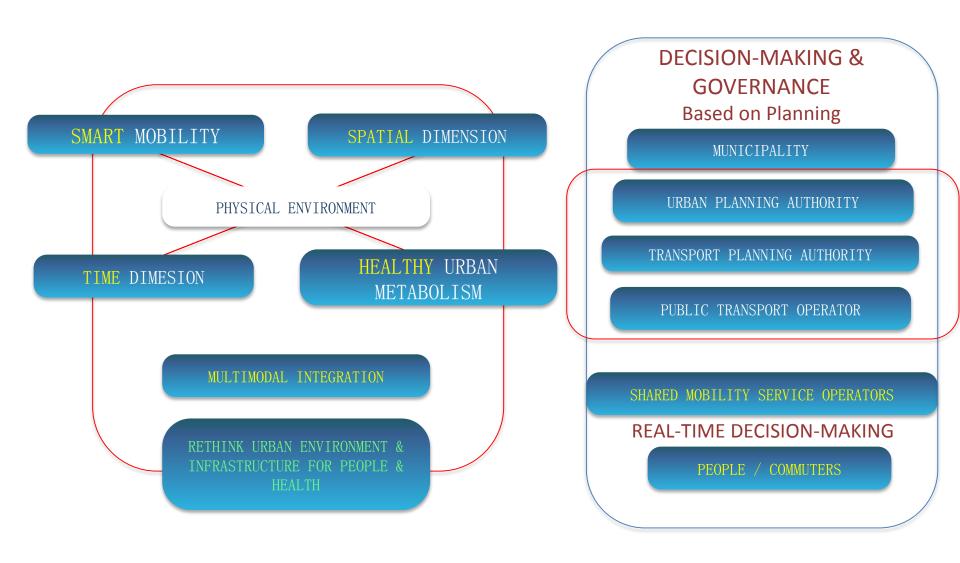
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谢谢大家!



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