



# Green Transport @Taipei City

陳學台 Chen, Xue-Tai

Deputy Commissioner

Department of Transportation, Taipei City Government



# Outline

## Introduction

- Basic Information
- Green Transport Policy
- Green Transport in Taiepi City
- Policy Goals

## Promote Green Transport

- Bicycle-Sharing System (YouBike)
- Bike Network
- The Neighborhood Traffic Improvement Project



# Basic Information

*(July 2017)*

Item	Numbers
Population	2,685,202
Area	271.8 km <sup>2</sup>
Population Density	9,879.34 / km <sup>2</sup>
Registered Automobiles	808,769
Registered Motorcycles	979,147
Automobile Ownership Rate	301 cars / 1,000 persons
Motorcycle Ownership Rate	353 motorcycles / 1,000 persons



# Taipei Metro



(Aug. 2017)

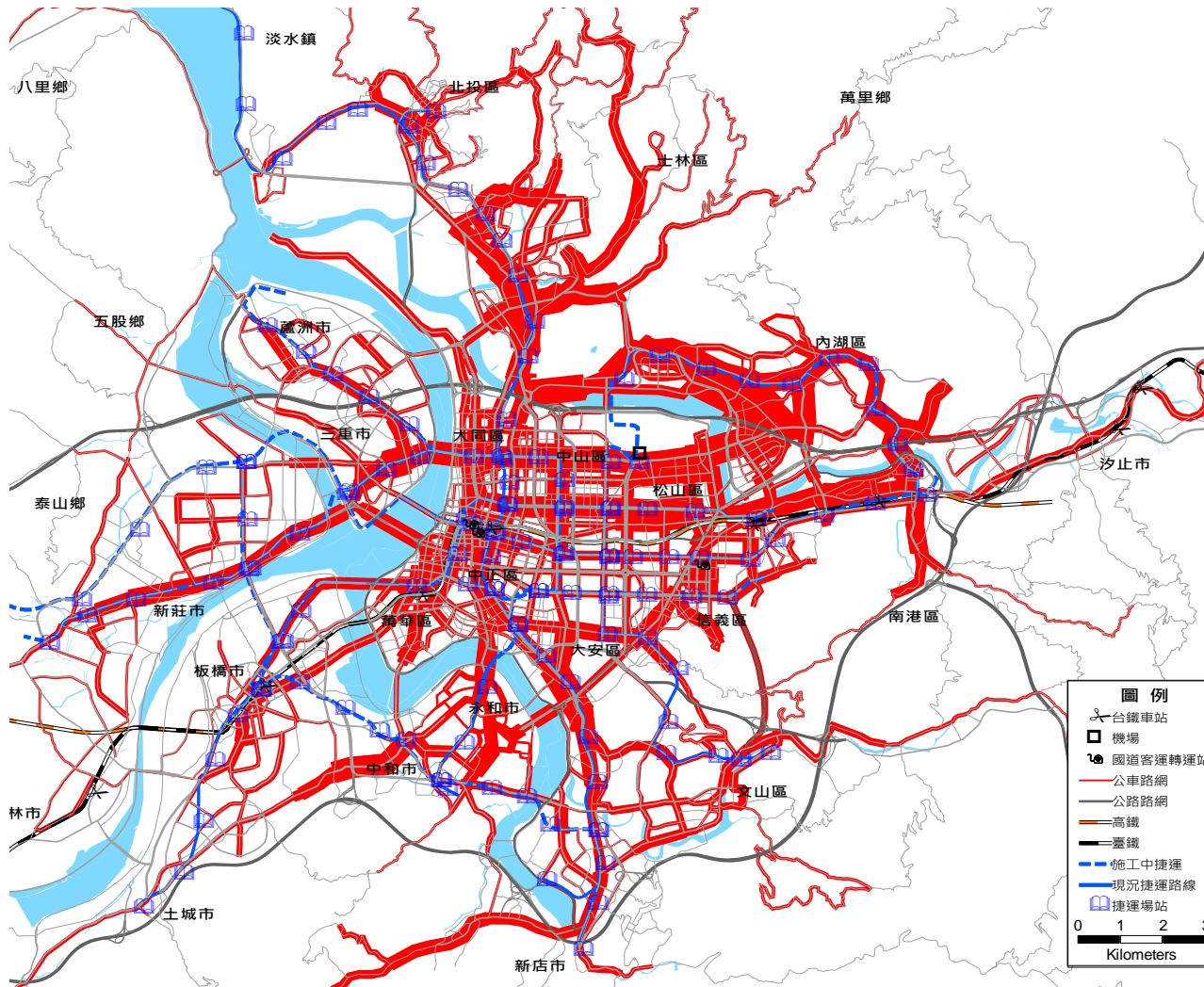
- 5 lines
- 131.1km of revenue track
- 117 stations
- 2.04 million passengers/day





# City Bus System

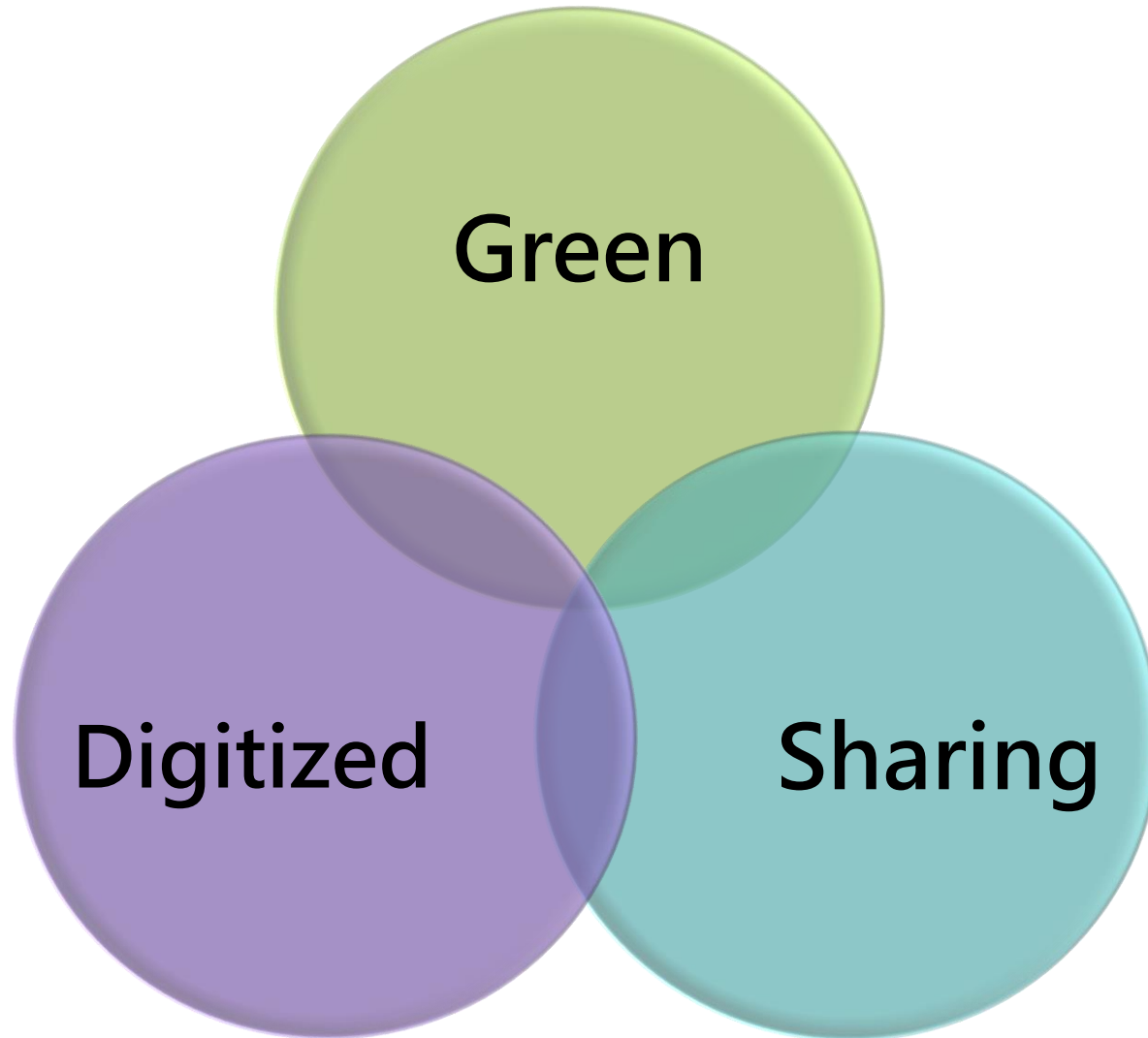
(Aug.2017)



- 14 civil operation bus transports
- 3,507 buses
- 287 routes
- 1.3million trips/day
- 86.89% city residents living within 500 m of bus service coverage



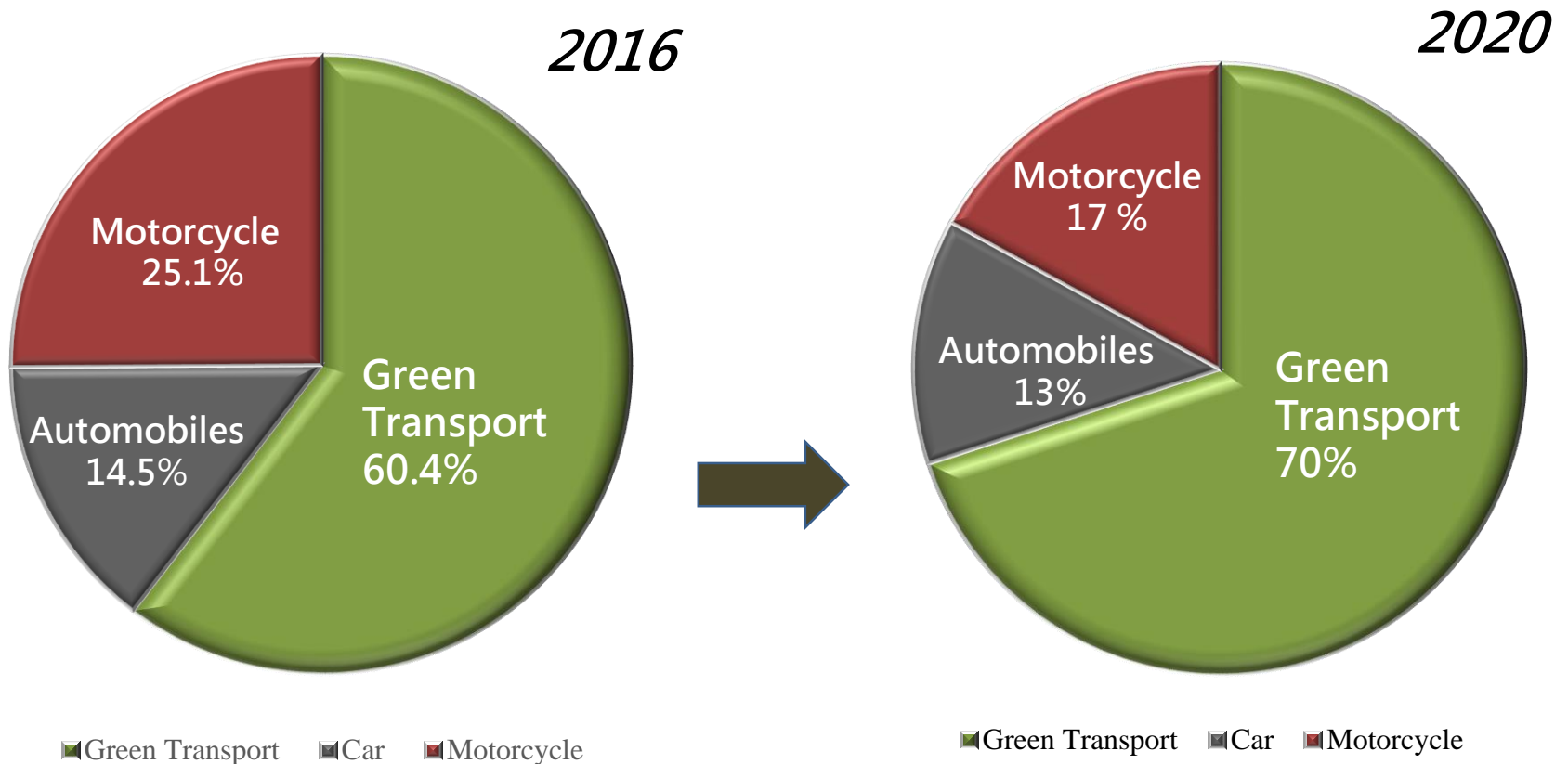
# Introduction – Our Strategies





# Vision 2020 of Taipei City

Market Share of Green Transport : 70%



\*Green Transport = Bus+ Bike+Metro+Walking



# The Network of BBMW

## Backbone Service

Mass  
Rapid  
Transit  
System

## Network Service

Arterial  
Bus

Feeder  
Bus

Outskirt  
Bus

## First & Last Mile Service

Taxi

Mini  
Bus

YouBike

Walk





# Bicycle-Sharing System (YouBike)



# YouBike—Trial Project



Trial project started from March 2009 with 11 stations and 500 bikes in Xinyi district.





# YouBike—Trial Project Summary

(trip/month)

25,000

20,000

15,000

10,000

5,000

0

2009

2010

2011

2012

(year)

Low Usage Rate in 2011 & 2012

- 5,000 trips per month

Low Turnover Rate

- Less than once per day



# YouBike - Trial Project Summary

## Operation Model & User Reaction Analysis



Limited Coverage



Unfriendly Registration Process



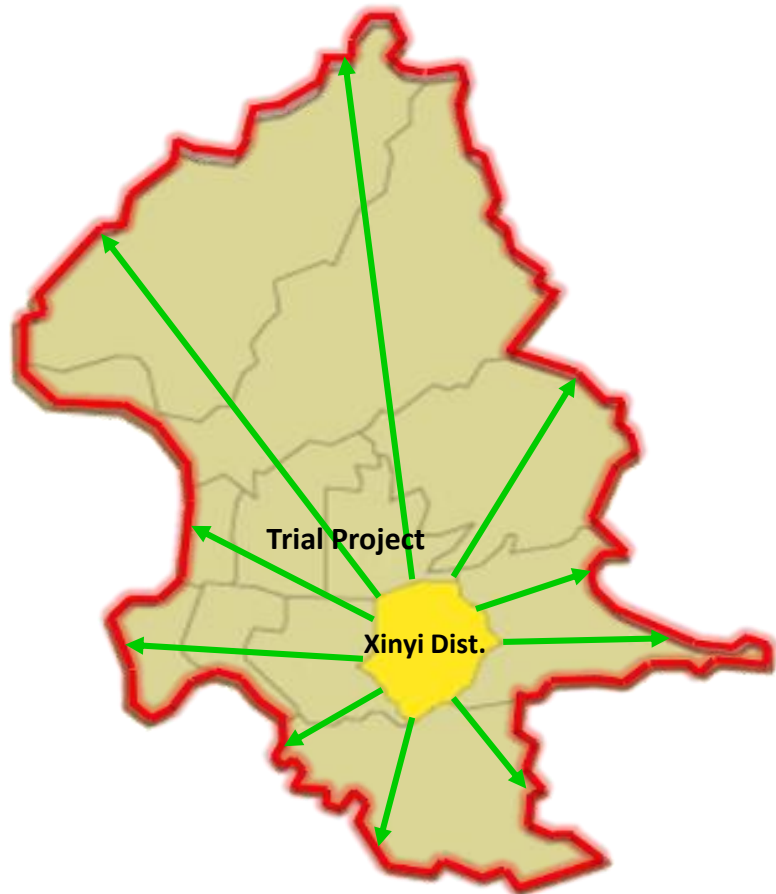
Similar Fare as Other Public  
Transport Modes (with Annual Fee)



# YouBike - Whole City Project

- Expansion Program since Aug.30, 2012

Bike Services Expand to  
The Whole City





# YouBike - User-Friendly Registration

1. An EasyCard
2. Deposit: 0
3. Mobile Phone Number (TW)
4. Only 2 Min. to Become a YouBike Member



Easy to Register  
in Kiosk, APP, Website



Fare Strategy:  
No Annual Fee





# YouBike - Progressive Rates

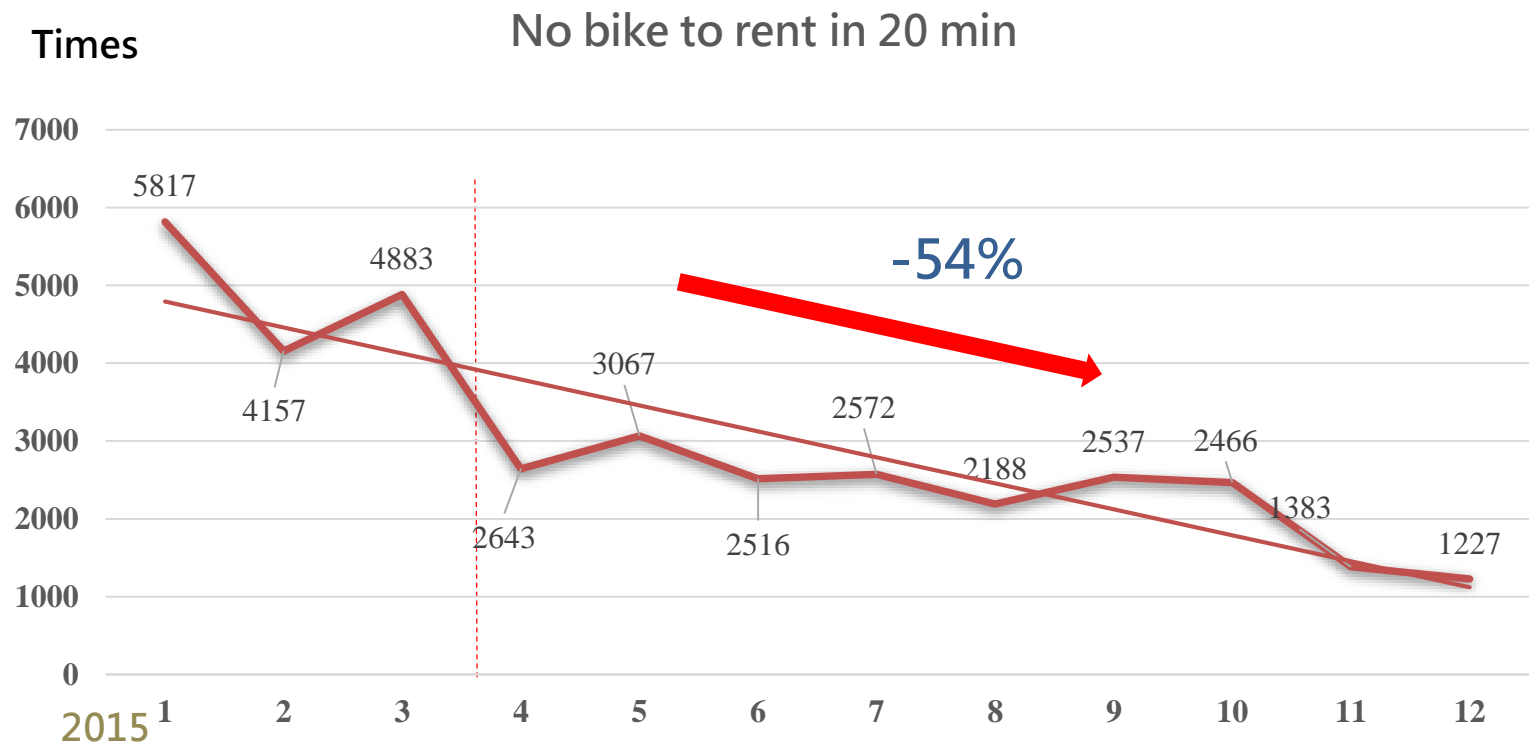
Rent Plans	Single Rental	Member
Target Market	Short-term Users or Tourists	Long-term Users
Payment Method	By Credit Card	EasyCard
Charge Rates	\$10NT per 30min within the first 4 hours. \$20NT per 30min between 4 to 8 hours. \$40NT per 30min exceeding 8 hours.	





# YouBike

Situation of “no bike to rent” declined by 54% from Apr. to Dec. 2015.

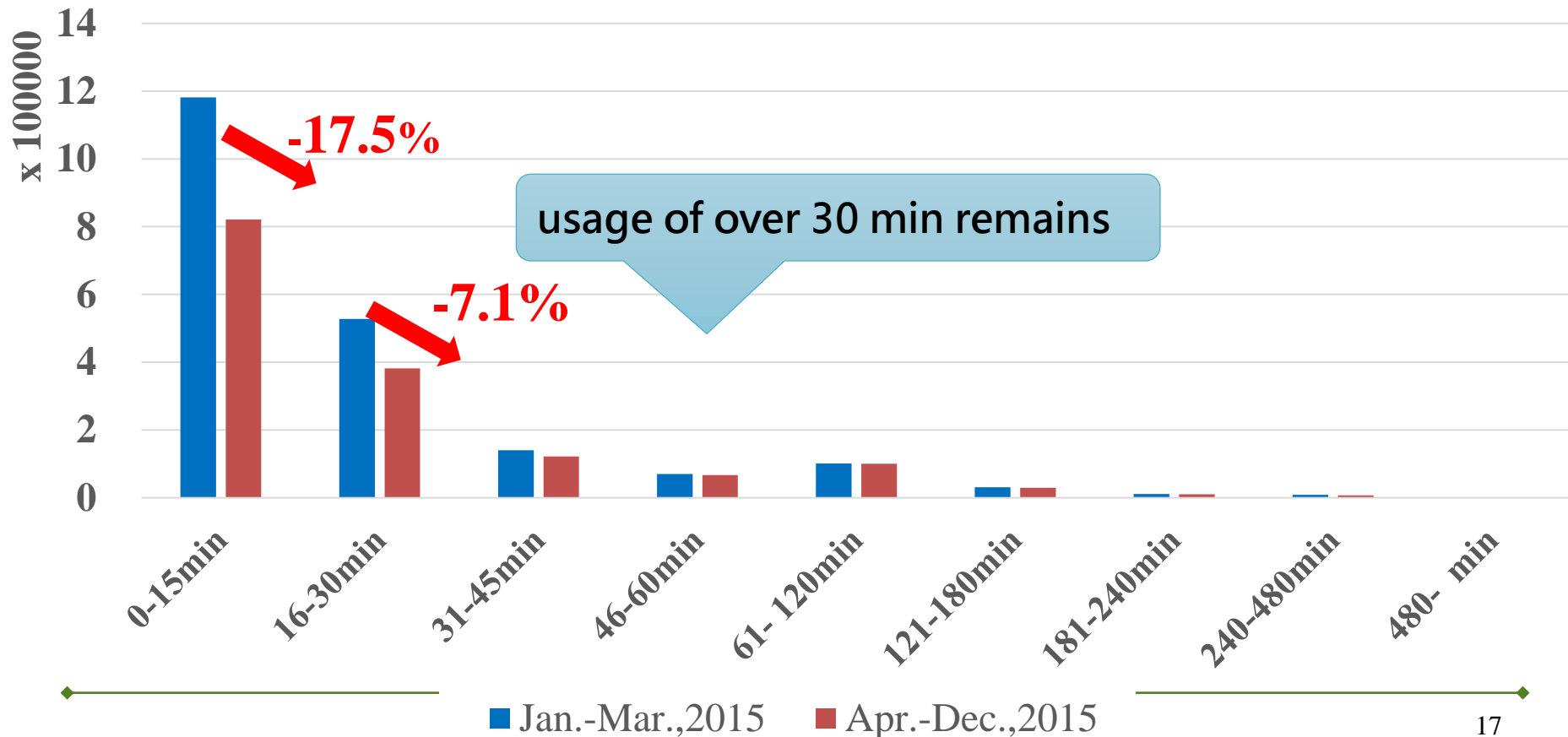






# YouBike

The usage in 15 min declined by 17.5%, the 16-30 min declined by 7.1% ; short-distance users decided to go on foot !

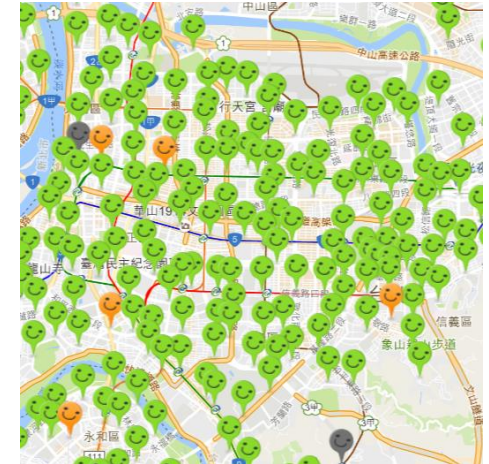




# YouBike – Today

- 370 Stations & 12,148 Bikes
- > 50,000 Trips/Day
- Turnover Rate : 5.73 Times/Bike/Day
- 94.7% Customer Satisfaction

*(Aug. 2017)*





# YouBike - Future Expanding Plan

- Goal by 2017: 400 stations and 13,000 bikes
- Users can reach rent station within 5-10 minutes or 350 meter walk

370 stations  
(Aug. 2017)

Goal by 2017:  
400 stations



# Bike Network @Taipei City







# Urban Bikeway since 2009

## Experience from DunHua and BeiAn Rd. Bikeway

### DunHua Bikeway



Type: Lanes on Roadside

### BeiAn Bikeway



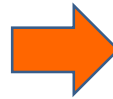
Type: Lanes on  
(widening) Sidewalk



# Urban Bikeway

## Experience from DunHua Bikeway

- Type: Lanes on Roadside.
- City residents' driving habits not easy to change
- Bike Lane shift to Slow Lane with a 30 km/h speed limit in 2012.







# Urban Bikeway

## Success Cases of Bikeway on Roadside



ChangXing St. Bikeway

### Key Factors

1. land use characteristic uncomplicated
2. lower business parking demand



FangLan Rd. Bikeway



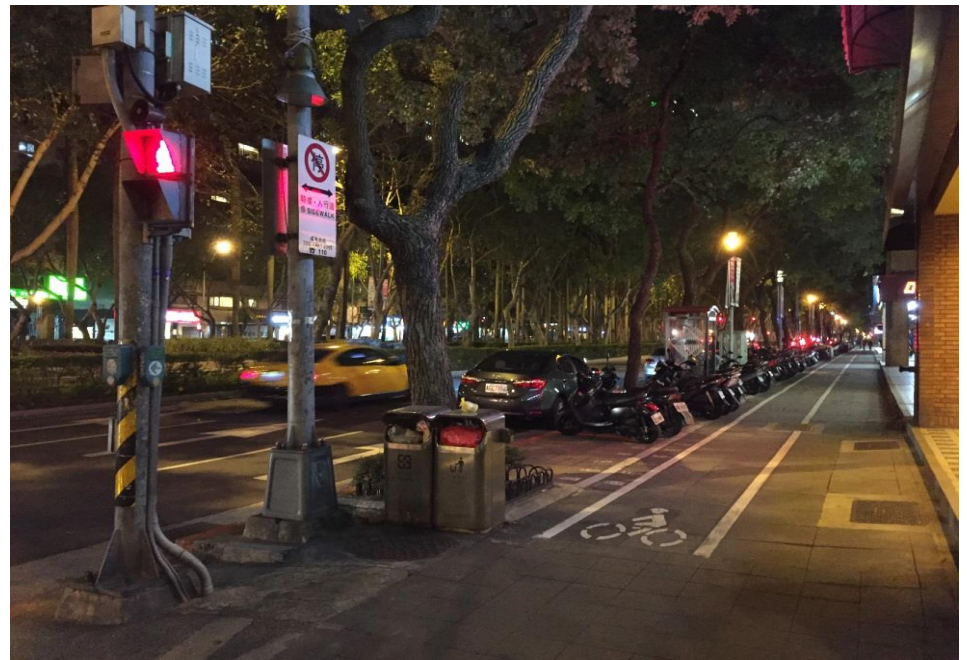
# Urban Bikeway

## Reallocated Bikeway with Widening Sidewalks



FuXing N. Rd.

## Marking Bikeway on Existing Sidewalks



RenAi Rd.





# Urban Bikeway

Share-used Path if Sidewalk Wide Enough





# Urban Bikeway

Curb Lanes Change into Slow Lanes If Sidewalks not Wide Enough



slow lane with a 30 km/h speed limit





# Introduction of Current Bikeway

Separated Bikeway 85.76km

Shared-use Path 304.30km

Riverside Bikeway 112km

- completed evaluation of establishment of separated bikeway along arterials over 20 meter width in 2014
- preferred separated bikeway in the future





# Neighborhood Traffic Environment Improvement Program





# Friendly Space

- Taipei Arcade Pavement Leveling Program (2002~2016)
- Completion : 83.18% ; 183,000 of total 220,000 m



No. 60, Sec. 1, XinSheng S. Rd.



No. 118, Sec. 3, ChengDe Rd.





# Friendly Space

- **Pedestrian Environment Improvement Project**
- Completion : 96.15% ; 2.44 million m<sup>2</sup> of total 2.50 million m<sup>2</sup>



Roosevelt Road



SongJiang Road



# Friendly Space

- Clearing Arcades & Sidewalks of Motorcycles
- Completion (Aug. 2017) :
  - ✓ 1,215 road sections
  - ✓ 51.02% of total road sections with sidewalk
  - ✓ Implemented Road Sections : 654.53 km in length





# Origin

1

Illegal parking hot spots

2

The Conflict of  
Pedestrians and Cars

3

Occupied Roads to be  
Parking Spaces

4

Difficulty of fire truck to  
pass

✓ The origin of this plan is  
"10 illegal parking hot  
spots raised by people"

✓ Taipei city government  
started to implement  
"Neighborhood traffic  
environment improvement  
program" in August, 2015.





# Purpose & Project Schedule



Year	2015	2016	2017	2018	2019	2020	Total
The number of villages(里)	30	60	100	100	100	66	456
Accumulate villages(里)	30	90	190	290	390	456	456



# Method & Strategy

- This plan takes a **village** (里 ; Li) into a unit.
- Mainly use **marked sidewalks** to improve pedestrian's walking environment.
- Adjust red lines and yellow lines
- Adjust parking spaces
- Clear **arcades of motorcycles**





# Participating Departments

- Department of Transportation - convener
- District office 、 Police office
- - vice convener
- Village Office
- Police Department
- Traffic Engineering Office
- Parking Management and Development Office
- Consultant Firms
- New Construction Office, Public Works Department
- Construction Management Office
- Department of Environmental Protection
- Fire Department
- Department of Information and Tourism
- Research, Development and Evaluation Commission
- Construction Contractor



# Results & Benefits

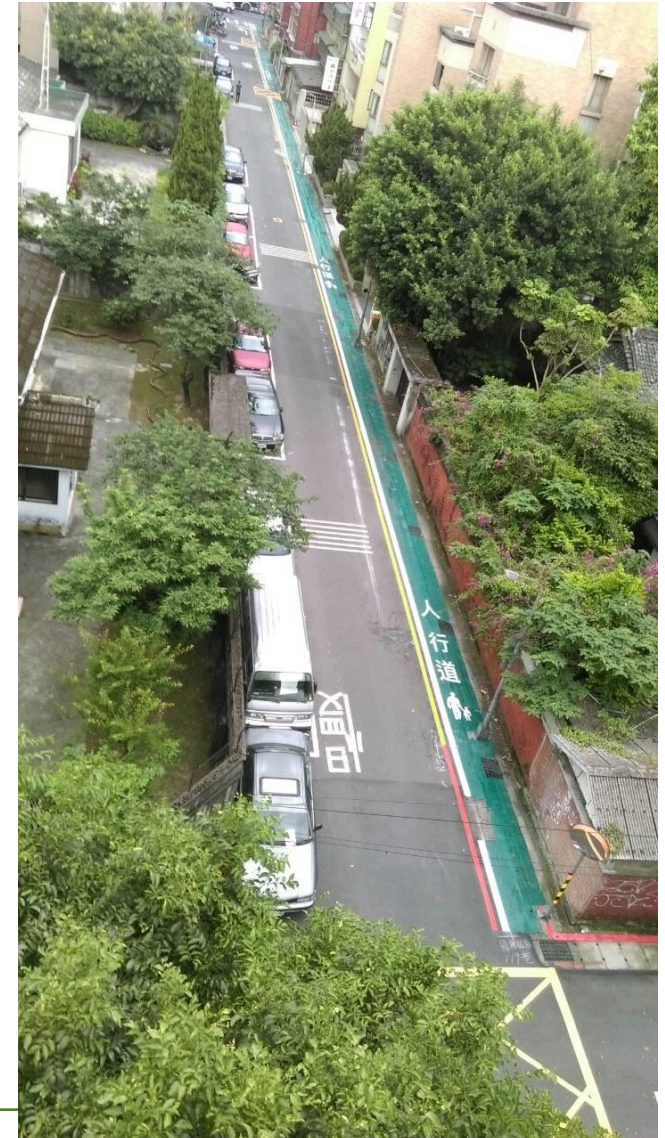
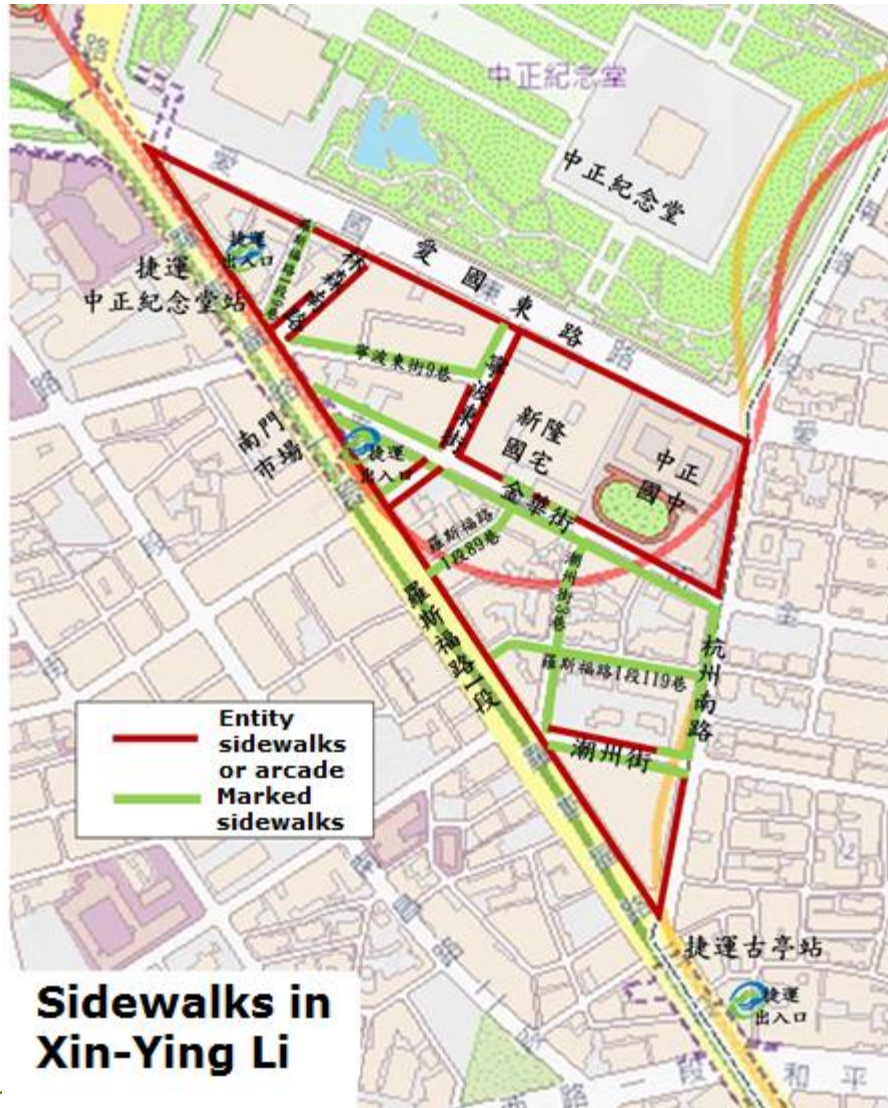
2015					
Car parking spaces	Motorcycles parking spaces	Marked sidewalks	Under 8 meters alleys	Accomplished	Completion
+485	+905	+93 (9,000m)	582	251	43%

Level	Completion	Quantity	Name
High	>80%	4	<u>XinYing Li (village)</u> DaSyue Li (village) HuaSheng Li (village) JianAn Li (village)





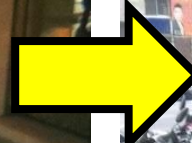
# XinYing Li (village), ZhongZheng District





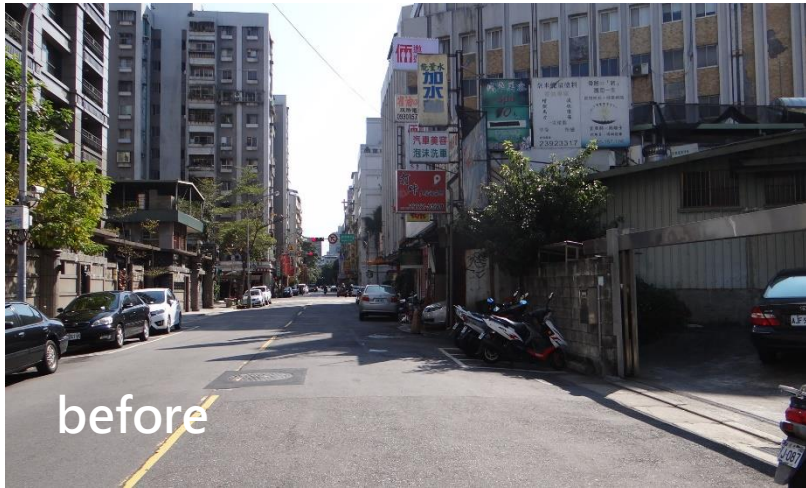


# XinYing Li (village), ZhongZheng District





# XinYing Li (village), ZhongZheng District

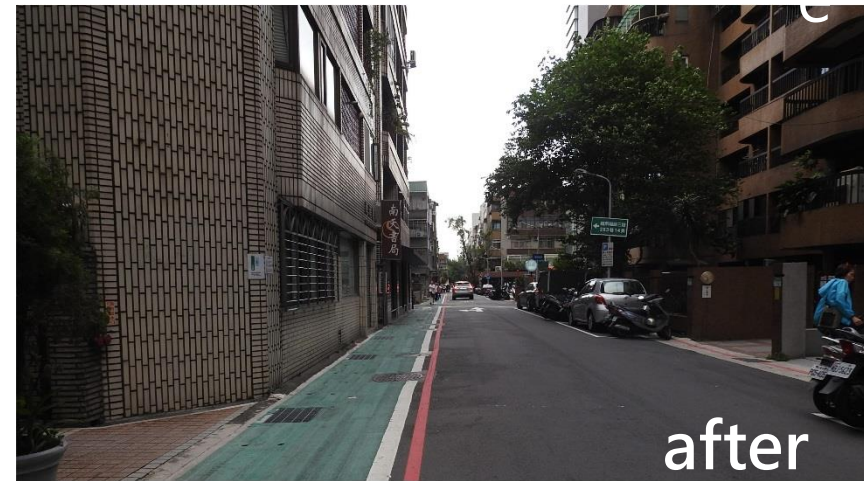


JinHua Street  
(near by NingBo  
East Street)





# DaSyue Li (village), DaAn District







# HuaSheng Li(village),DaAn District

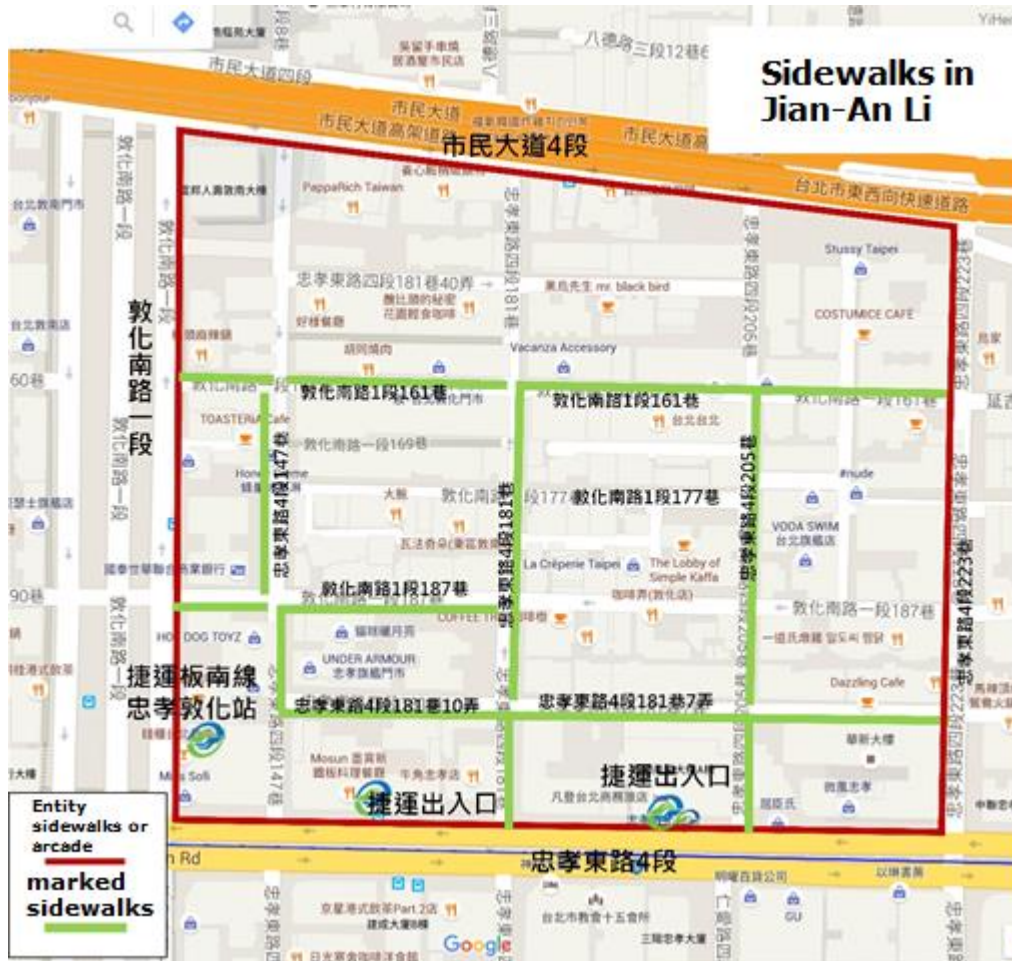
## Sidewalks in Hua-Sheng Li







# JianAn Li (village), DaAn District





# Current Implementation

## Accidents Analysis

2015	Completion	total number of accidents
HuaSheng Li(village)	100%	52→13 ( ↓ 75%)
DaSyue Li(village)	96%	33→13 ( ↓ 61%)
JianAn Li(village)	82%	63→38 ( ↓ 40%)
XinYing Li(village)	100%	8→1 ( ↓ 88%)

2016	Completion	total number of accidents
TengYun Li(village)	100%	2→0 ( ↓ 100%)
DongRong Li(village)	98%	30→4 ( ↓ 87%)
YuanShan Li(village)	87%	38→22 ( ↓ 42%)
ZhuYuan Li(village)	85%	36→11 ( ↓ 69%)

Data Period : the year before implementation & the year after implementation

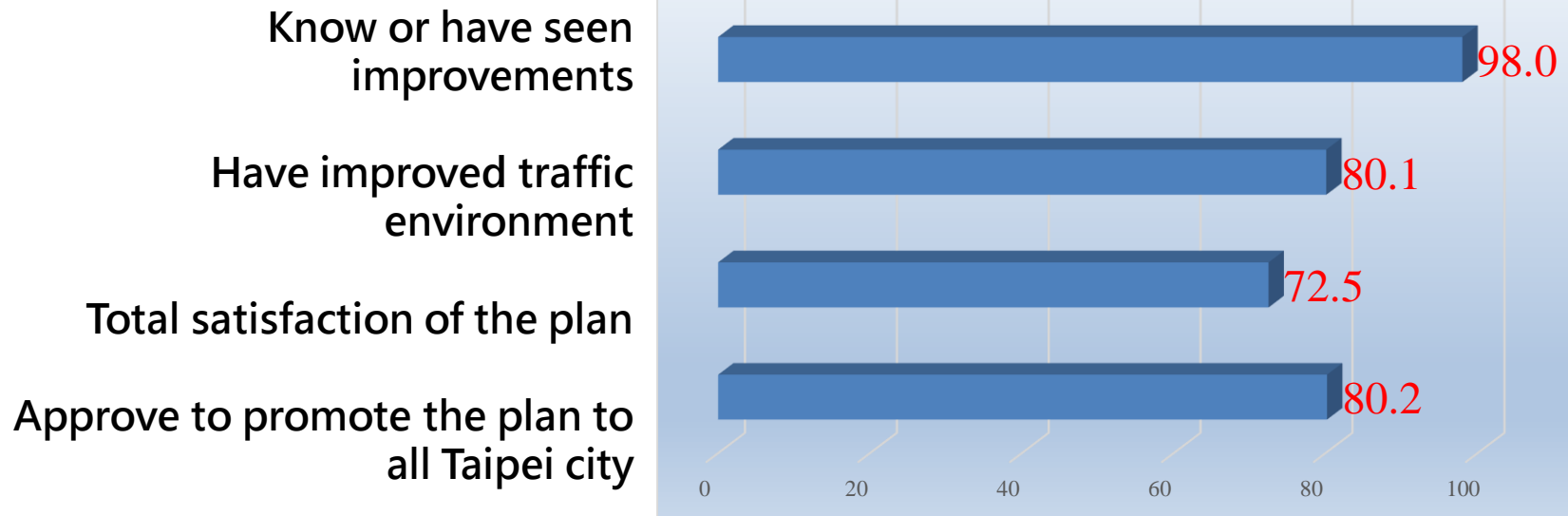


# Current Implementation

## Satisfaction Survey 2015

- 10 Villages of highest completion in the annual plan 2015
- Face-to-face interview
- Oct. 14 ~ Nov. 1, 2016

### Results





## Current Implementation

- 2015 : accomplished 30 villages ;  
4 villages' completion over 80%
- 2016 : accomplished 53 villages ;  
33 villages' completion over 80%
- 2017 : accomplished 175 villages  
(predicted) ; currently under  
planning or construction





# Future Plan

- Total **456** villages in Taipei City accomplished by **2020**
- Strengthen communication between residents and increase completion up to 80%
- Maintain improved traffic environments (Including enforcement and improved facilities)



**Thank You for  
Your Listening**