

# **People Friendly Transport Policies, Planning and Design : An Experience from Daejeon city**

**Chan-seob Oh**

Director of Transportation Policy Division  
Daejeon Metropolitan City Government

Do you Know which city in korea?

Seoul?

Incheon? Suwon?

Busan?

Jeju?

Always ready & opened city to the World

# DAEJEON



The host city for the OECD committee for Scientific and Technological Policy held a Ministerial-level meeting (20–21 October, 2015)

# “Present”

# Contents

- 1 Introduction of Daejeon city
- 2 Status of Transportation in Daejeon city
- 3 Strategy for people
- 4 How we works



CK 2009 DAEJEON COLLECTION  
FROM WOOSUNCYISAN  
<http://blog.paran.com/tnck>



1

# Introduction of Daejeon city

# Location



Google Earth

# Modern History



1950  
(The Korean War)



1960 ~  
(City Reconstruction)



# Today

- **Populations : 1.54 million (7<sup>th</sup> of Korea) [2017]**
- **Leading Science and technology city of Korea**
  - **Principal institution**
    - Daejeon government complex
    - The INNOPOLIS Daeduck (Many government research institutes, 11.8% of Ph.D-level researcher in Korea are concentrated)
- **Place to translate dreams into reality**



2

## Status of Transportation in Daejeon metropolitan city



# Road network

- **Number of registered cars : 659,616**
- **Well connected road networked : 2,077km**



# Urban Public Transit

- **Subway / Fare = \$1.136**

Line1 (2007~ ), 22km, 22 station, headway 5~10min., 110K passenger/day



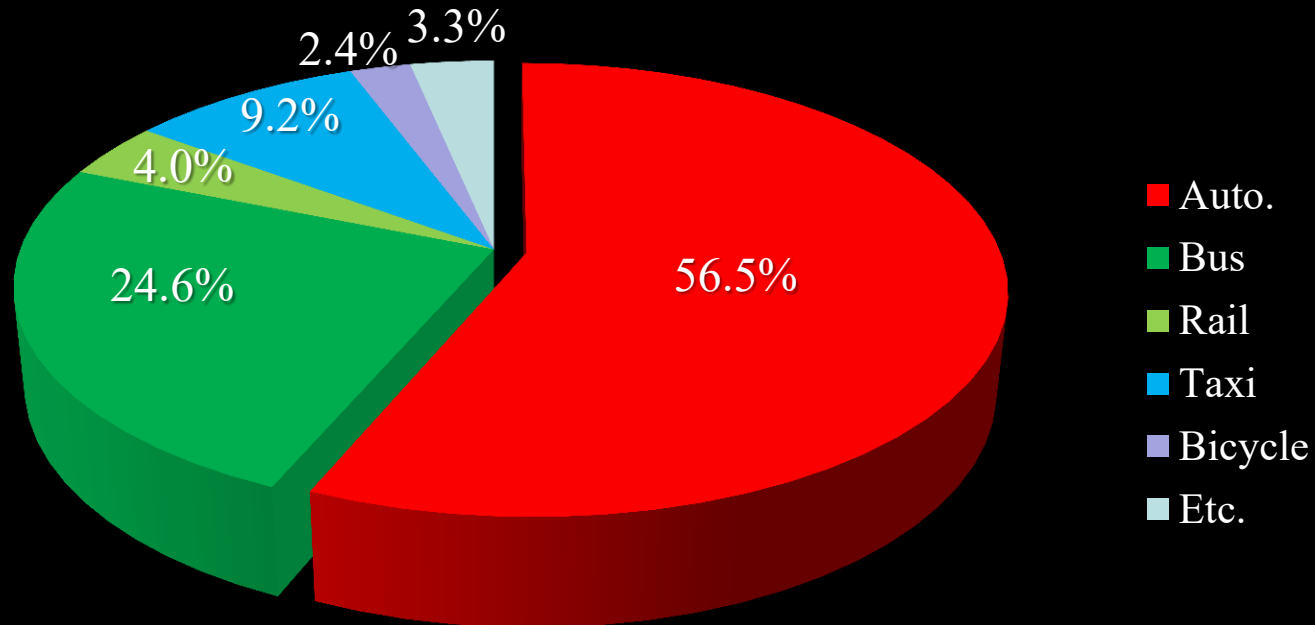
- **City bus / Fare = \$1.136 (one pay, 3 transfer)**

965 Bus, 95 line, headway 5~15min., 450K passenger/day



# Performances

- **Modal share (exclude walking) of 2014**



- **Traffic congestion cost of city : \$1.08 billion / year**
- **Gasoline gas cost per person : \$364 / year**

3

# Strategy for people



To be sustainable city, trying to

**More**

**Less**

**Public Transit**

**Bike**

**Passenger Car**

**Walk**

**More**

**Less**

**Equity**

**Efficiency**

**Safety**

**Dangerous condition**

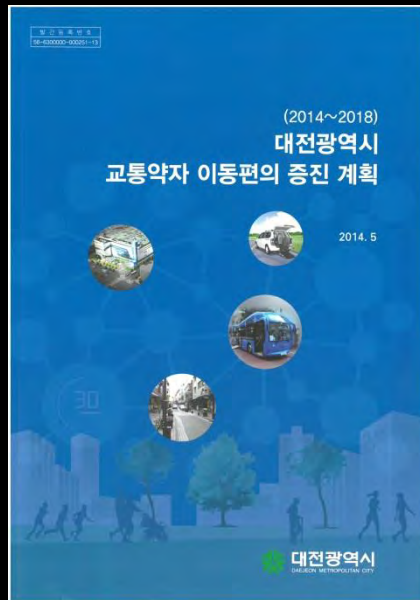




4

How we work

# Official Plans by detail field



**Vulnerable  
people**



**Pedestrians**

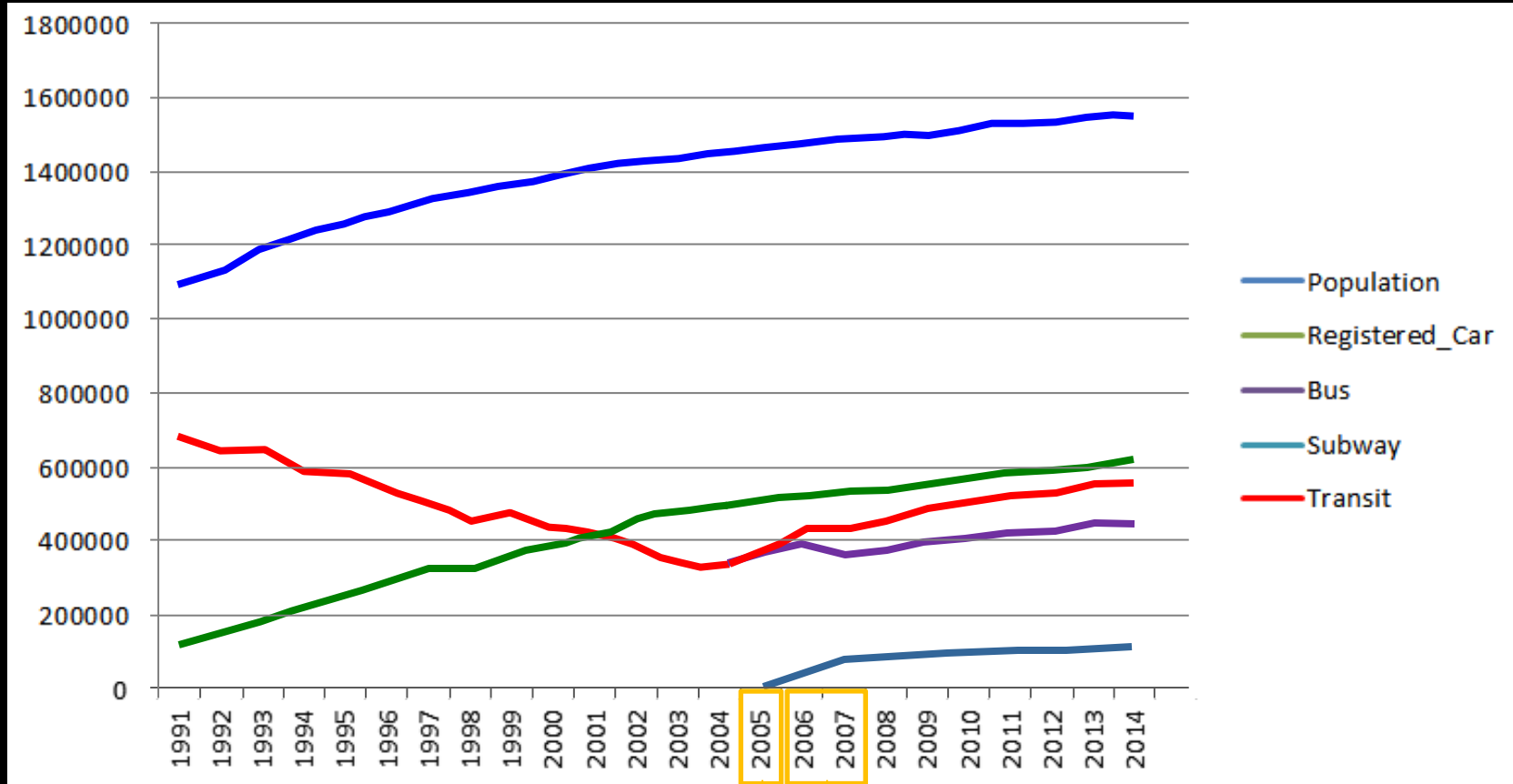


**Safety**



**Integrated**

# Transit passenger trend, 1991-2014



Subway line 1 was opened

Semi-public management system  
for city bus was started

# Urban Rail(2<sup>nd</sup> line) Construction

- **Circle line Tram(2014~2025)**

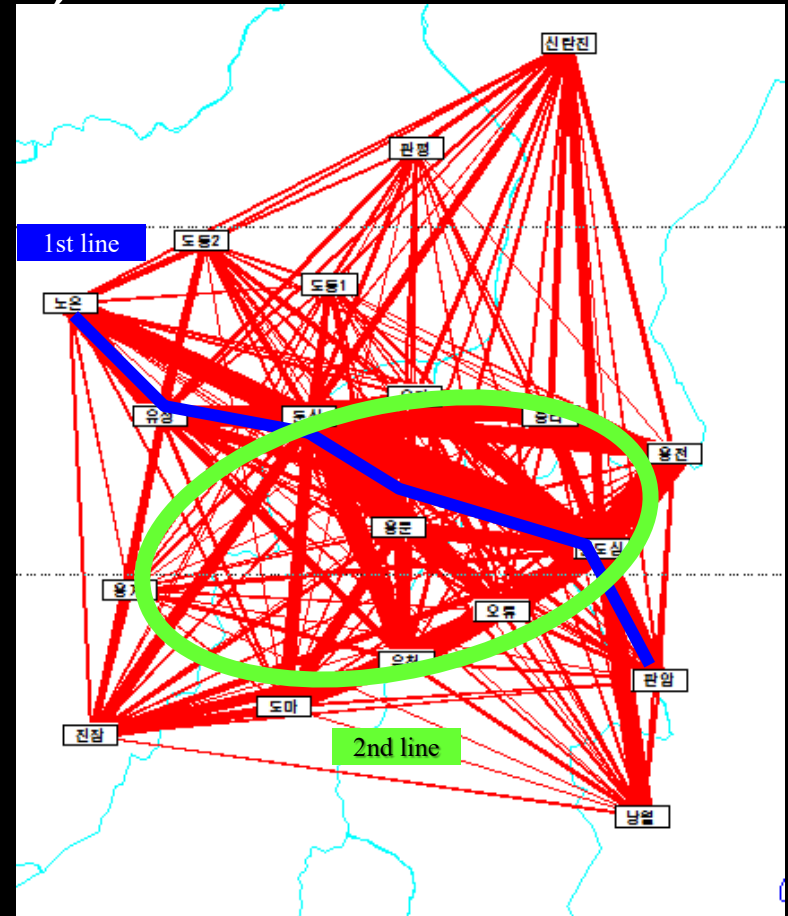
Length : 32.4km

Stop : 30

Headway : 7.5 minute

Power : Wireless Full Battery

Construction Cost : \$520 million



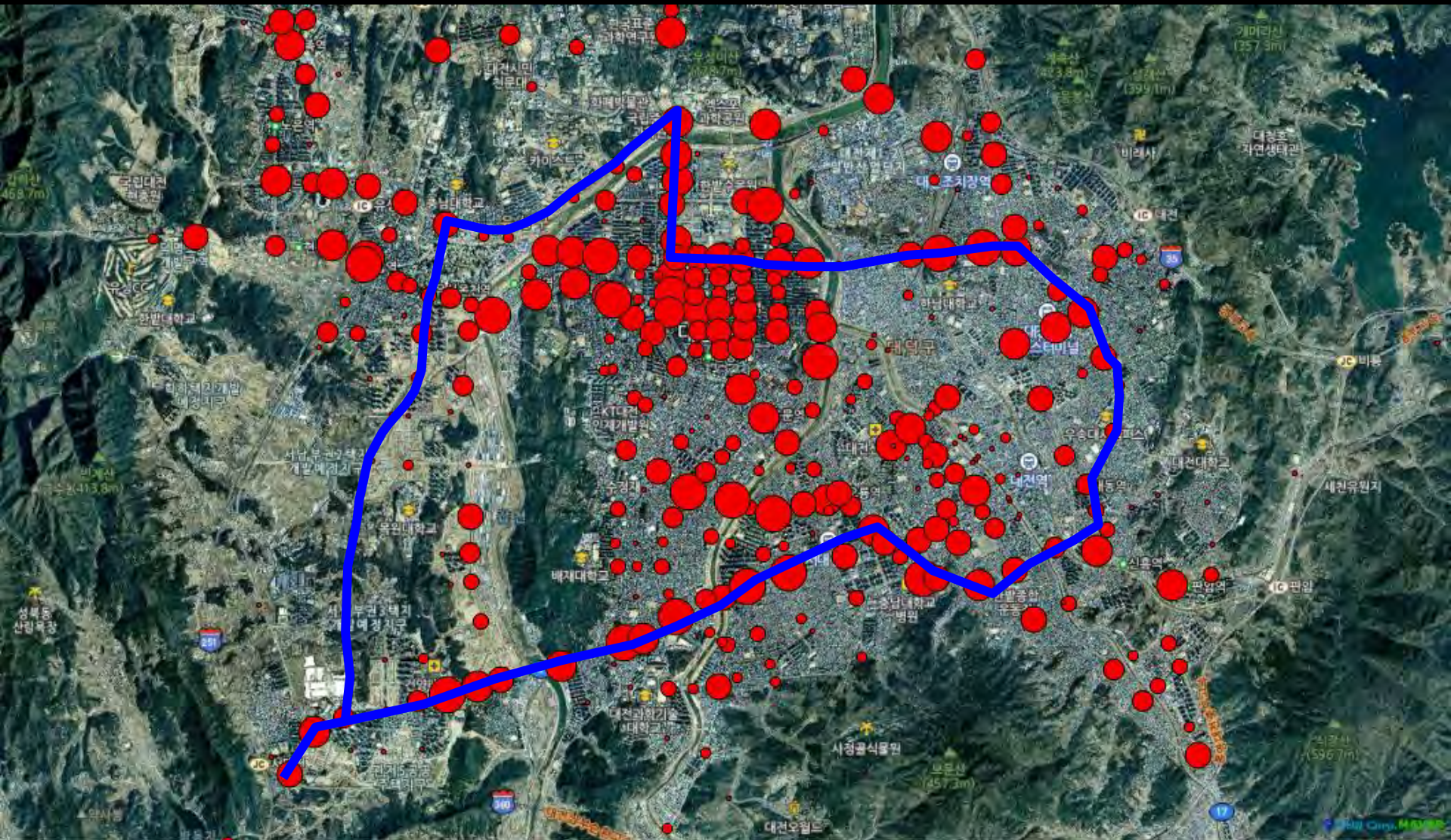
# Philosophy to the New System

- **Transit priority rise and road capacity reduce simultaneously**
- **Not speed, but convenience for vulnerable users**



(Figure)  
Berlin/German 21

# Construction on the Arterial Road



● Traffic volume of Intersection  
(source : ITS center Data)

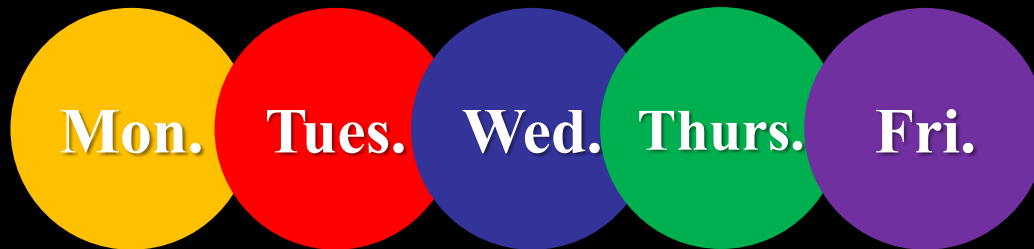
— 2<sup>nd</sup> Subway line

# Travel Demand Management



# Weekly Car-Free Day

- Citizens participate oneself and acquire 10% reduction of car tax
- Participant have car rest a day which the select oneself
  - But, should **fix car rest day**

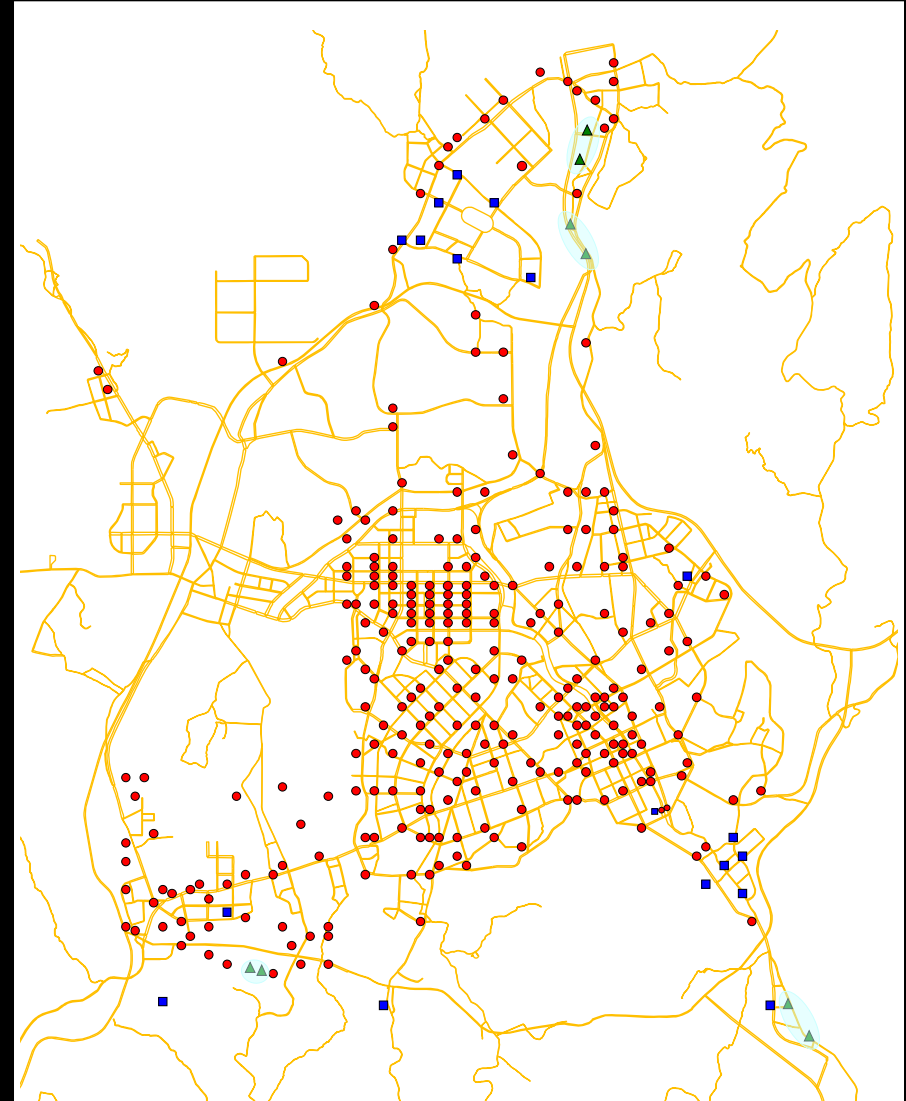




# Using existing Infrastructure Of ITS

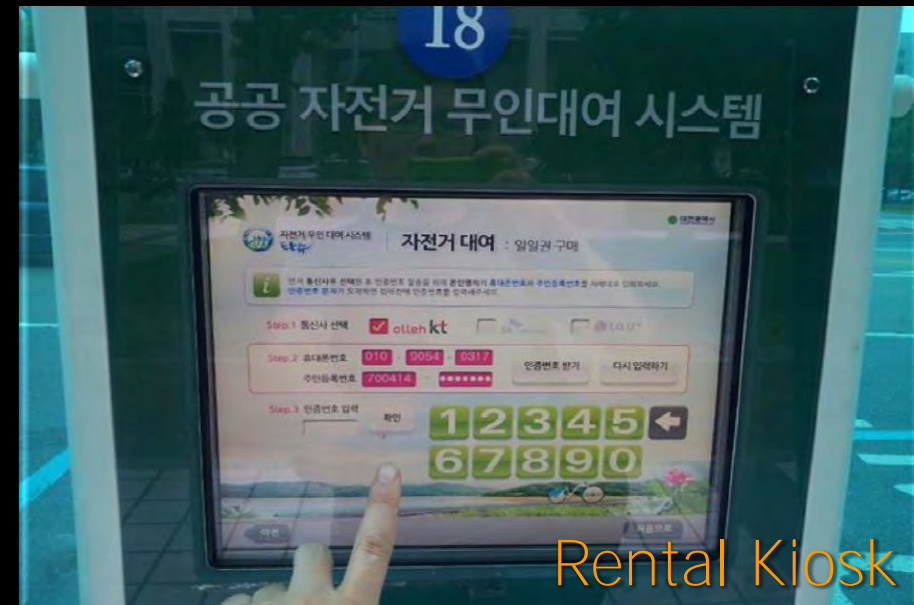
- **ITS of Daejeon**

- Road Side Equipment(RSE) : 407
- Hi-Pass ( ; Electric toll collection system) OBU
- DSRC Technology



# Public u-Bike "Ta-shu"

- A self-service public bike rental system which can be used anytime, anywhere



# Operating statistic

- **Station : 261 (300, due 2021)**
- **Bicycle : 2,355 (4,000, due 2021)**
- **Fare : \$0.45 per hour**
- **Operating Budget : \$3 million per year**
- **Install cost : \$33 thousand ( 1 station + Kisok + 10 bicycle)**
- **Average rental frequency : 2,319 per day**
- **Average travel distance : 1.70km (30 minute)**
- **Peak time : 5 p.m. to 10 p.m.**
- **Highest using age : 20 ~ 29**

# Bike way

- **Length of Bike way(2016) : 754km**
  - Exclusive lane : 118km
  - Shared lane : 636km



# Traffic signal for vulnerable people

- **Traffic signal operating for vulnerable people**
  - Design speed : 0.8m/sec (Normally, 1.2 m/sec)
  - 224(17%) of 1,307 place where installed traffic signal



# Seat for pregnant woman

- **Daejeon Subway line 1**



# Color lane

- **Inform driver specific direction**



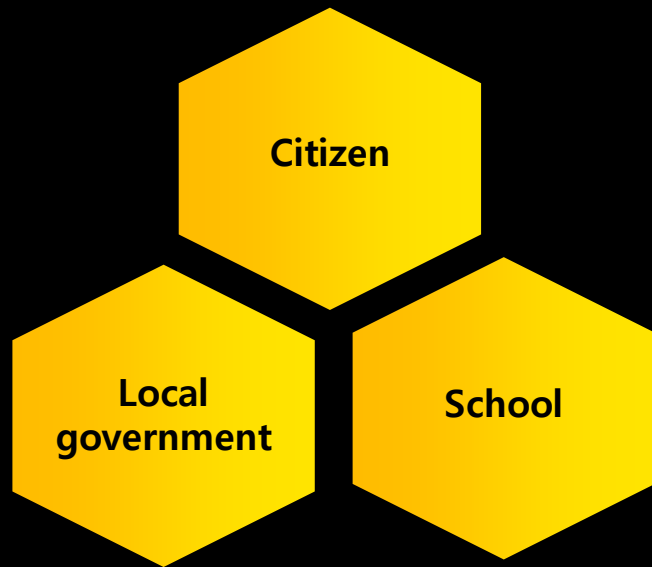
# School zone

- There are 472 school zone in Daejeon / 2018





# Yellow carpet



# Streetlamp

- **Pin spot LED light for pedestrian's safe**



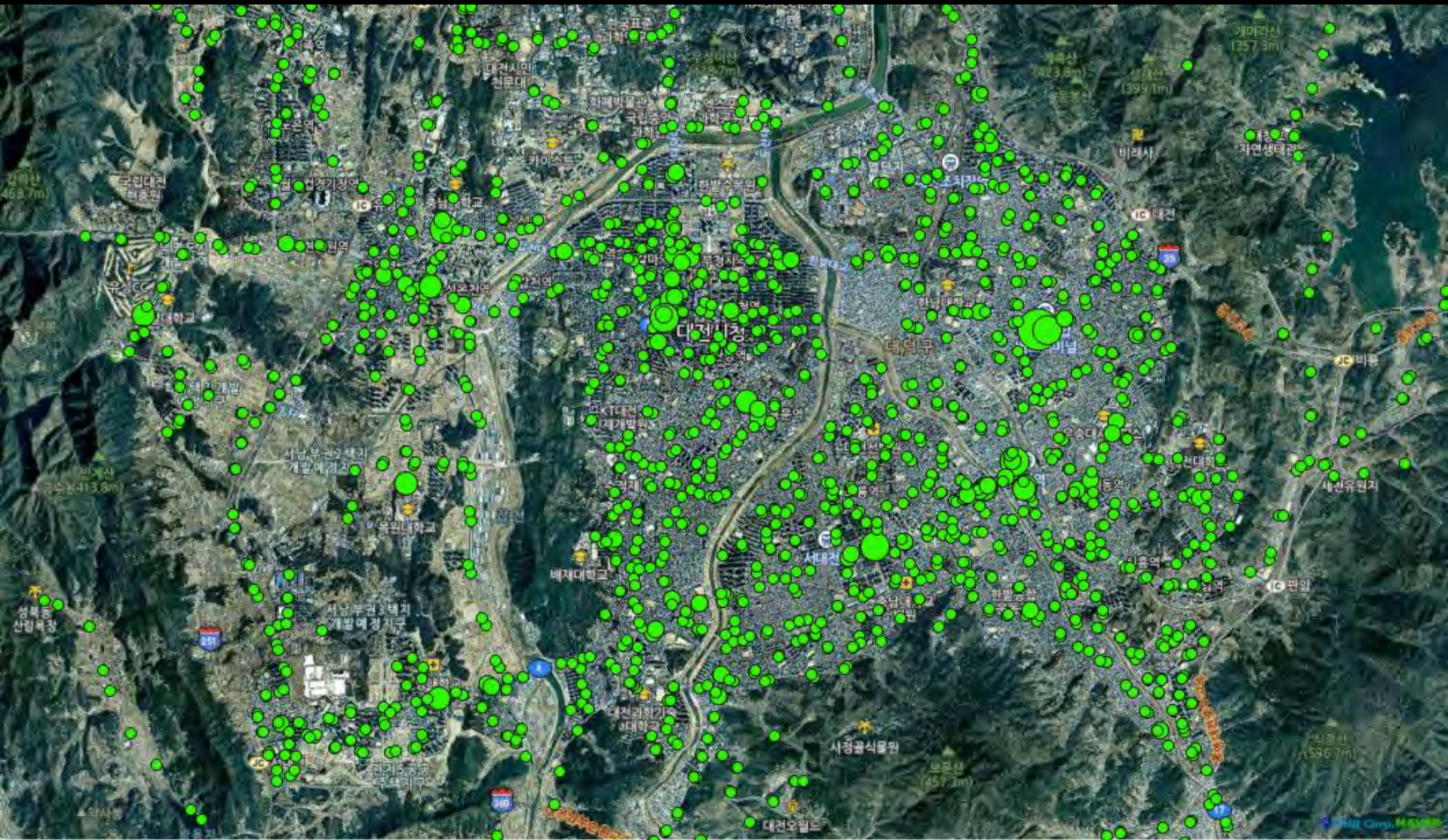
# Making policy using Big-data

- Data warehouse for many stakeholders(2012~).



Dash board of Daejeon ITS center's data warehouse

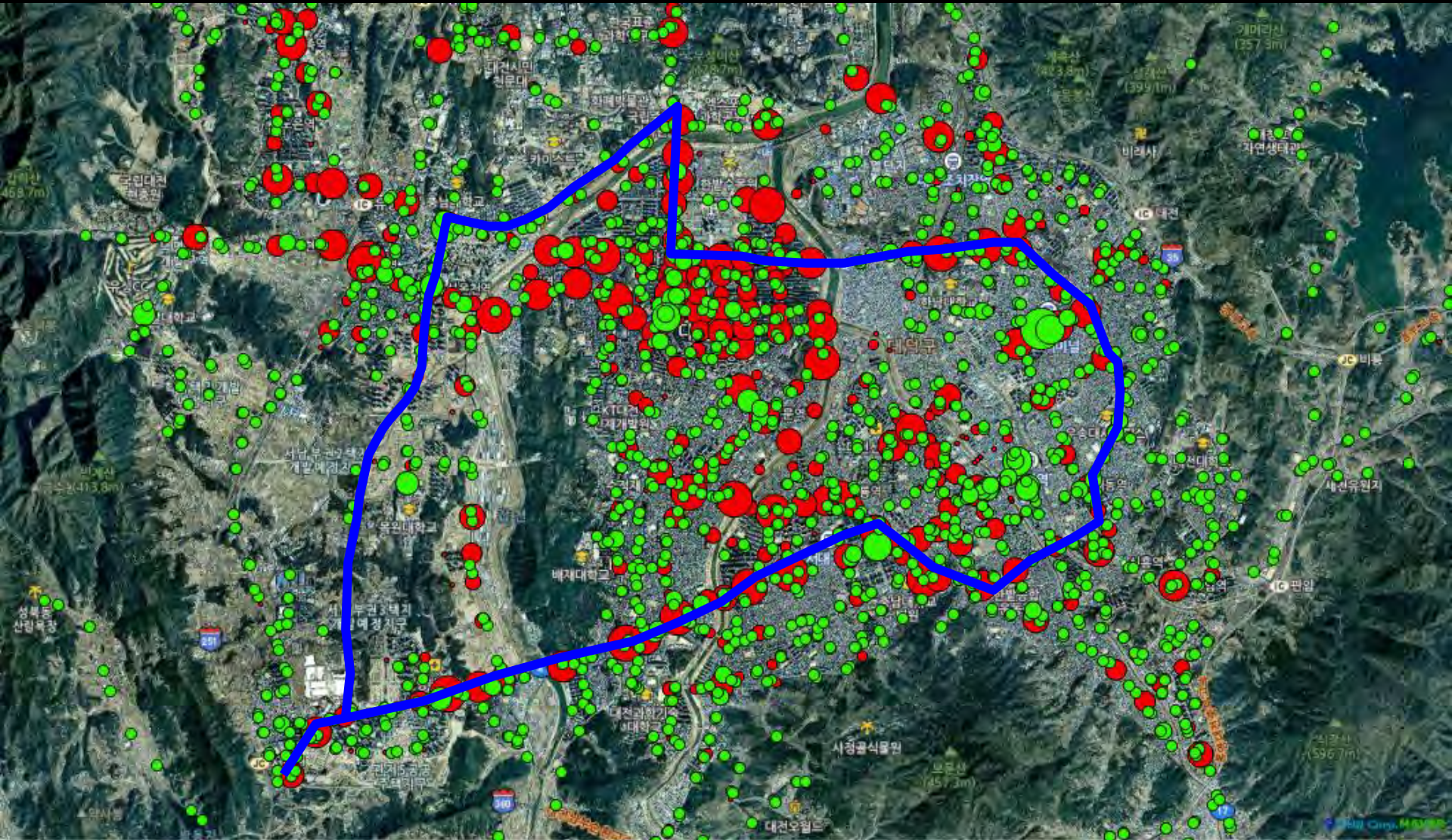
# • Spatial analysis for city-bus planning



● Bus passenger by card data

→ Open-source : Qgis and Naver map

# • Spatial analysis for 2<sup>nd</sup> subway(Tram) planning



● Bus card data ● Intersection RSE data

→ Open-source : Qgis and Naver map

# Summary

- **Daejeon is trying to be people friendly city**
- **If you have any question or idea, ask me please**

**ocs1474@korea.kr**