Personal Travel Assistant
- Overview

Cisco
Internet Business Solutions Group
- April 2009
Smart Transportation Program on CUD

- City-wide infrastructure for Ubiquitous Connectivity
- Smart Transportation
- Smart Development: Integration of Transport and Land Use
- Mobile Working Enhancement
- Connected Work Center
- Connected Transit Complex
- Connected Bicycle
- Connected Bus Stop
- Connected Bus
- Personal Travel Assistant
- Personal Activity Coordinator
- Connected Station
- Connected Bus
- IP Bus
- Smart Congestion Management
- Area-wide Vehicle Tracking
- Low-Emission, HOV Vehicles
- Smart Parking Management
- Modal Shift Encouragement to Public Transport
- Area-wide, Time-based Flexible Road Pricing
- Transform urban mobility & transportation patterns
- Enhance citizen engagements
- Informed Decision Making on day to day ‘Travel Moments’ focused on improving choice and experience
- Rich Ubiquitous Connectivity
- Passenger Service Experience Improvement

Informed Decision Making on day to day ‘Travel Moments’ focused on improving choice and experience

City-wide infrastructure for Ubiquitous Connectivity
Smart Transportation Benefits

Intelligent Traffic Management
- Reduce Unnecessary Time Consumption On the Road
- Less Vehicle Kilometers Traveled
- Less Traffic Congestion
- Avoidance of the need to add road capacity

Intelligent Transportation Hub
- Less Traffic Volume
- Less Vehicle Kilometers Traveled
- Less Use of Energy
- Less Use of Land

Smart Work Center
- Transform urban mobility & transportation patterns
- Seamless travel experience

Area-wide Vehicle Tracking
- Connected Bus Stop
- Connected Bus
- Connected Train
- Connected Public Transit
- Better Travel Experience
- Modal Shift Avoidance to Private Cars
- Improved Asset Utilization
- Increased Public Transport Volumes

Low-Emission, HOV
- Improve Citizen Satisfaction and Carbon Reduction Potential
- Enhance Individual Choice and Citizen Empowerment for Work and Life Balance
- Increase Use of Green Transport Modes

Personal Activity Coordinator
- Personal Travel Assistant
- Network as the Urban Services Platform
Smart Transportation Framework for 21C’s Connected & Sustainable Urban Mobility

Area-wide, Time-based Flexible Road Pricing focused on congestion reduction and modal shift encouragement

- Pay-as-you-drive, Smart Road Pricing for Traffic Control
- Intelligent Traffic Management
- HOV & Parking Management

Enhance the Use of Telecommunications to Substitute for Physical Travel

- Mobile Working/Learning Enhancement using advanced Collaboration Tools
- Neighborhoods Work Centers and Connected Transportation Centers

Informed Decision Making on day to day ‘Travel Moments’

- Travel Planning with Rich Alternatives
- Personal Mobility Carbon Calculators
- Enhance Citizen Engagements

Less Travel Volume
Less Vehicle Kilometers Traveled
Less Traffic Congestion

Personal Travel Assistant (PTA)

Mobility Marketing

Passenger Service Improvement with Rich Ubiquitous Connectivity

- Personalized Travel Experience
- Real-time Schedules & Unified Mobility Account
- Reverse-modal shift Avoidance to Private Cars

Connected Public Transit (CB)

Intelligent Transportation Hub (SWC)

Intelligent Traffic Management (SRP, ITC)
Smart Transportation Solutions Mapping to ETSI Intelligent Transportation

PTA & Smart Pricing
Connected Airline
Connected Rail/Ship/
PTA & CB
PTA
PTA
Connected Transit
Smart Road Pricing
Introduction to Personal Travel Assistant

- PTA is a unique service offering for Citizens that allows Cities to accomplish both a way to reduce carbon emissions and increase citizen satisfaction
- PTA is focused on citizen experiences and their daily travel moments, especially public transportation
- Greater ability to balance alternatives and make more informed decisions
- Choices with informative and intuitive alternatives: time, financial, and environmental based impacts
Introduction to Personal Travel Assistant

- Enhances the ability of City leaders and City agencies to predict, respond, administer, and manage the Urban economy, environment, and transportation system

- Cities benefit from
  - Improved demand management
  - Event-based management systems
  - Enhanced planning for urban development
  - Improved citizen experiences
  - Reduced carbon emissions
  - Increased use of public transportation and/or alternatives
PTA is about the service, NOT about devices

On Board Travel Advisor
Real time schedules, traffic, load, and route options

Digital Wallet
Personal transactions and interactions with the public transit system, including reward programs.

Bus Stops/Train Stations
Real time monitoring schedules and other services for the citizen

Mobile Advisor
Personal travel assistance and advice on the options available
Personal Travel Assistant

Rich and immersive data access and utilization through mashups of sensors, video, fused data, social networks, and other content.

Click to collaborate with co-workers, transportation authority, and others.

Interact with assistant for planning day and improving upon day to day travel experiences overcoming disruptions, and ensuring productivity.

Integrated decision support environment across urban environment, partners, businesses, and service providers that allows
Personal Travel Assistant of Seoul

Overview

Objectives

- Transform urban mobility patterns by providing real-time personalized travel information services
- Enable users to organize their work and social activities with better options in terms of Carbon/Time/and Financial impact

Strategy

- Link with TOPIS Development Plan: Multi-phased approach and u-TransPolis Implementation Roadmap (MP6 PTIS)
- Co-Develop Technology Architecture (Device Independent) and Standard Service Platform

Key Features

Travel Planning
- Day-to-day travel moments
- Smart traveler: automated recommendations based on profile

Carbon Calculator
- Carbon, Time, and Financial incentive suggestive alternatives
- Proactive service offerings based on profile

Reservation
- Schedule and reserve travel and work based on personal needs

Safety & Emergency
- Real-time safety alert and remote diagnosis

Pilot Scope (U-TOPIS Phase VI)
### Personal Travel Assistant

#### Role of City Government

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<th>Role of City Government</th>
<th>Service Channel</th>
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<td>• Shape Urban Transport and Environment Policies</td>
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- City Web, Broadcast, One-call Service
- City Web, Broadcast, One-call Service
- City Planner, Service Planner
- Users
- Citizens
PTA Seoul Pilot Co-development

City of Seoul
- Web Server (at TOPIS)
- Traffic Condition & Volume Data
- Public Transport Operation Data and Shortest-Route Tools
- Carbon Calculation Logic

Cisco
- Vision, Concept, and Core Features
- Development Partner – Y&H E&C
- Design and GUI Templates
- Web2.0 Service and Networking Technology

PTA Seoul Pilot
(Will be located in TOPIS Center)

Information & Personalized Travel on Service Widgets
- Trip Planner
- Carbon Calculator
- Real-Time Trip Router
- Personal Travel Planner

Web Service Platform
- Real-time road traffic info
- Real-time public transit info

Service Channel (Roll-Out)
- Mobile Phone
- PDA*(Navigator)
- IPTV
- Smart Media
PTA Seoul
Pilot Features

- Seoul PTA is live service launched for citizens use
- There will be two different service channels for Seoul PTA pilot services, PC via internet and Smart Phone via mobile
- PTA Seoul is the world first case of real-time personalized mobile travel assistant
- PTA Seoul is the world first service for citizens to view and manage their personal mobility carbon footprint
- PTA Seoul uses virtual assistant, ‘Seoul Haechi’, with which citizens familiar.

*Haechi is consistent branding across the city
PTA Seoul
System Architecture

PTA SEOUl Pilot

- Low Carbon Green Route (Real-time public transport guide)
- Personal Travel Planner
- Real-time Trip Router
- My Mobility Carbon Footprint (Carbon mileage)

Multi service channel

PTA Pilot users (citizens)
PTA Seoul
Main Screen

Personal Travel Assistant Seoul

My Today  2009.04.13
1  11:30  My Today
2
3
4
5
6

Real-time Traffic Information

Low Carbon Green Route
Personal Travel Planner
Real-time Trip Router
My Mobility Carbon Footprint
PTA Seoul
Personal Travel Planner

My Today
2009.04.13

1 11:30 My Today

Travel Option
Destination

Route1: Car/Train
Route2:
Route3:
Route4:

Selected Route
From:
Destination:
Distance:

Route Guide

Virtual Assistant

Transcript
cost, I recommend route number 1.
PTA Seoul
Real-time Trip Router
Travel Choices

Segment

- aBc → Min's

- walk
  - 30 mins.
  - 89.78 units CO2
  - 0 W

- bike
  - 20 mins.
  - 75.11 units CO2
  - 200 W

- bus
  - 20 mins.
  - 60.11 units CO2
  - 800 W

- bus
  - 10 mins.
  - with a 10 min wait
  - 60.11 units CO2
  - 800 W

Next buses

- 80% capacity
  - ETA 5 mins
  - Select

- 60% capacity
  - ETA 8 mins
  - Select

- 20% capacity
  - ETA 12 mins
  - Select

Back

Transportation
Travel Disruption Management