

Dynamic Traffic Management

動的な交通管理

空間計画科学研究所

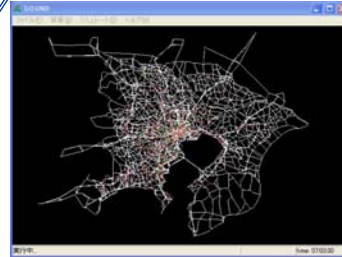
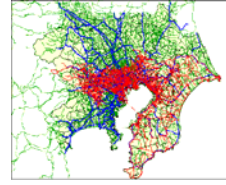
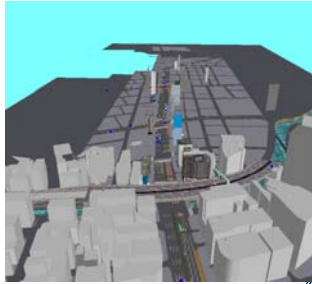
交通渋滞、環境問題、交通事故



シミュレーションモデリング

AVENUE

Advanced & Visual Evaluator for
road Networks in Urban arEas



SOUND

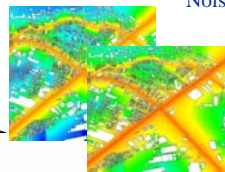
Simulation On Urban road
Networks with Dynamic
route guidance

環境評価

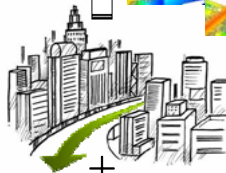
NO_x, CO₂
Concentration
Model



Noise



3-Dim
Urban Model

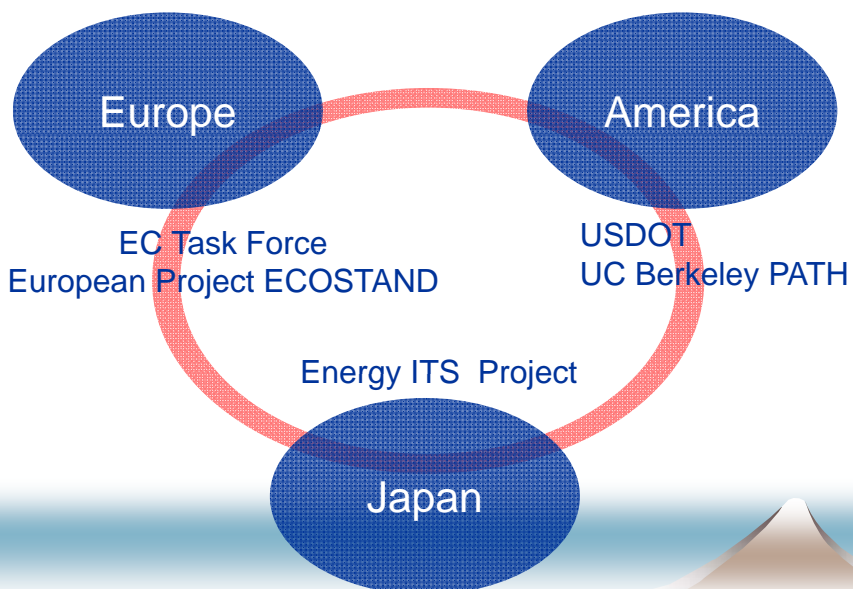


Emission Model
Traffic Simulation

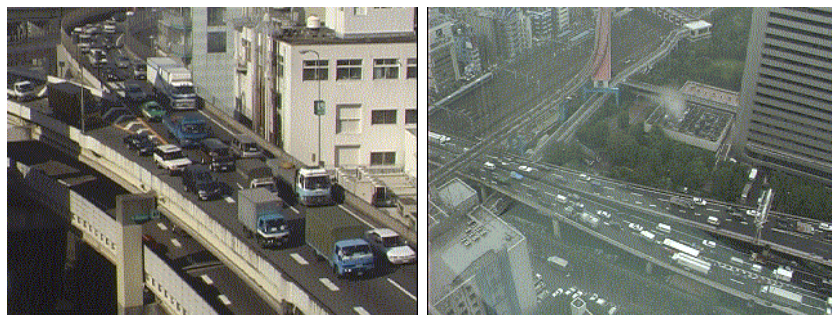


Policy

日米欧の国際連携



データ融合解析



磁気式 Detector (Intercity Motorways)



e.g. One loop detector between interchanges
(approximately one in every 10 km)

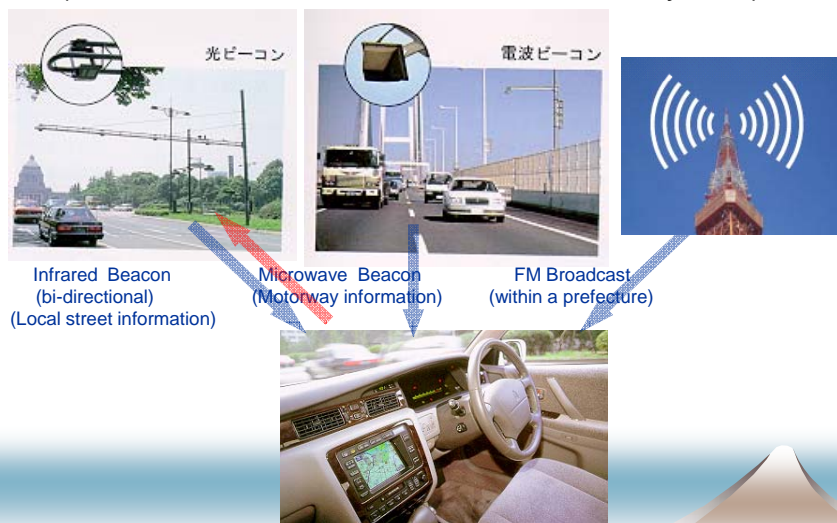
超音波式 Detector (Urban Expressway, Local Streets)



e.g. Metropolitan expressway
Ultra-sonic detectors installed at every 300 m

VICS since April 1996

(Vehicle Information and Communication System)



ETC (Electronic Toll Collection)



Brisbane
go via



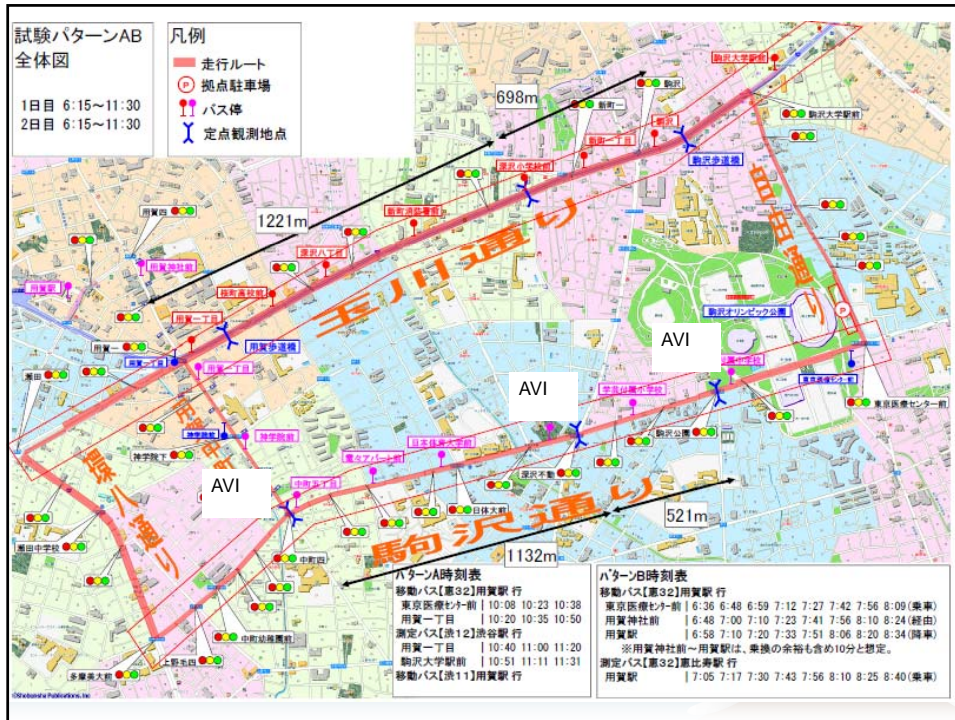
Melbourne
e-tag

Congestion at Toll Gates has been reduced from 35% to 2.5%

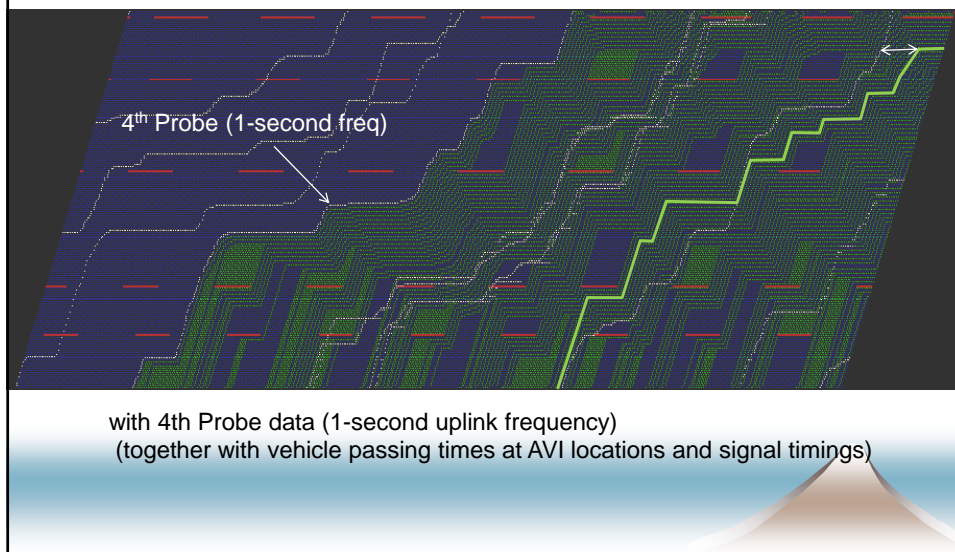
On-board unit costs about 10,000 yen = 120 AU\$
Several discount schemes have been introduced
to increase the penetration rate.

プローブデータ





Complete Trajectories based on Kinematic Wave Theory



信号制御

ITSセンサーを活用した信号制御高度化

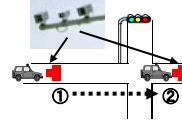
- 警察庁、県警、信号機メーカーとの連携プロジェクト
- 名古屋におけるフィールド実験 (2004)

CARREN
Control Algorithm Retuning
parameters
with self performance Evaluation



Field Experiment

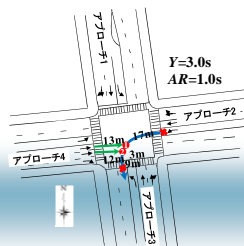
AVI: Automatic Vehicle Identification



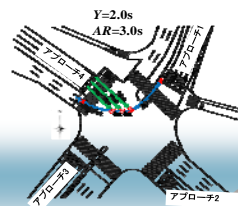
Evaluation by simulation

信号制御: インターグリーンの設計と損失時間評価

□ アメリカ (バークレー)



□ 日本 (日比谷)



研究への姿勢

自由な発想を大切に
主張のある研究
論理的な背景を持つ研究

人生ある間隔でステップ・アップ
ステップ・アップの時を、自覚できるかどうか！

