

ISO 17575 compliant
Satellite Metering
for Roads, Parking
and Insurance



- ❑ **Costs**
- ❑ **Multiple apps**
- ❑ **Making trials stick**
- ❑ **Winnipeg trials**

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Symposium on Mileage-Based User Fees: Moving Forward (Apr. 2010)

What have US GPS trials cost to date?



	participants	Cost per participant
Iowa	2700	\$6,110
Puget Sound	450	\$5,510
Oregon	300	\$9,800
Weighted average	3450	\$6,350

- Benchmark: Most recent GNSS contract
 - January 2010
 - 120,000 Slovak trucks
 - Three year contract
 - \$955/vehicle
 - Single application only (tolling)
 - Does not include billing/collecting/enforcement
 - Assume \$200 installation expense
 - \$755 for 36 months operating expense

\$21/month+ opex (operational expense)

Cost of operational GPS tolling



- Telematics opex will settle at half this

—————
\$10/mo

- There is ***no single, high volume pricing application***, that can justify an expense of \$20 or \$10 per month
 - (except tolling heavy goods vehicles in Europe)
- So how can we justify this cost?

We know

- Needed
 - Gas-tax broken
- Works
 - Economic efficiency
- Volunteers agree
 - Need
 - Fairness
 - (self-selected)
- Prefer privacy
- Technology works

Problems

- Cost
- Equitable
- Trust
 - Privacy
 - Fear
 - Fairness
 - Competence
- Do not need trials
- Need real experience
- Need industry to lead
- Government regulate and incent

□ Incent switching behavior

- Do not pay volunteers
- Pay providers to provide market corrections

□ Incent a new payment services industry to offer

- Convenience
- Payment services
- Green rewards
- Loyalty programs

□ Subsidize

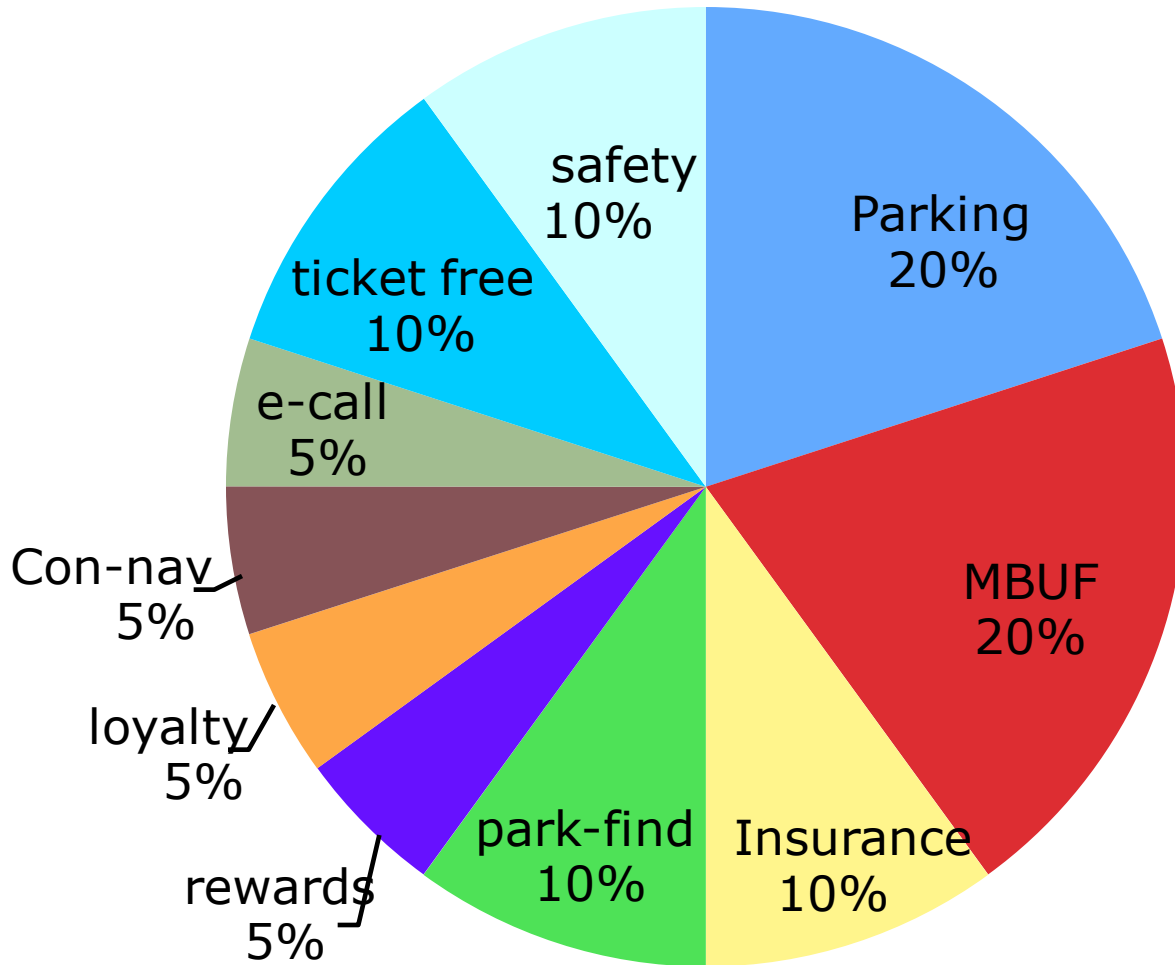
- Parking reform
- Insurance reform
- Switch to eCars
- Travel time switch
- Car-pooling
- Telework
- Switch fuel-tax to per-use

□ Users will self-select by program offering

- Not by bribe

□ Evolution, not revolution

- ❑ Design a cascade of time-limited program subsidies to develop a self-sustaining industry
- ❑ Treat the subsidies as trials
- ❑ Make the switched behavior permanent



The “*connected car*” changes the expense ratios...

Percentages are only examples

Road-use meter: parking in Winnipeg



- ❑ Target: high volume meter violators
 - 2 tickets/week
- ❑ In-car “graduated parking meter”
 - Same as road-use meter and PAYD insurance meter
- ❑ No tickets
- ❑ Pay by minute
- ❑ Graduated parking

- ❑ Next?
 - add PAYD insurance
 - More parking programs
 - Add green rewards

.... I understand that this will be an operational pilot targeted toward establishment of a “park by GPS” parking management solution for institutions and municipalities. I believe that this is a visionary and revolutionary concept that will change the way parking and transportation management is done worldwide, and I am keen to move forward, hoping to bring a final “consumer ready” service to the City of Winnipeg ...

... a precision GPS solution will be most successful as a third party service that can be offered in our city in combination with our other parking management technologies. The accuracy of GPS in demonstrating time, duration, and place integrates well with our current program and I would expect to see **major benefits to my agency in the form of reduced operating and infrastructure costs, increased operating efficiency, and increased profitability as a result of providing several new services.** As the infrastructure investment in this new concept is minimal, it is easy for a municipality or institution to acquire, and I anticipate that there will be a very large market for a product that demonstrates its value.

I am happy to participate in this, or any, trial that will help bring this remarkable new concept into the main stream. I know my customers will support the program, and I look forward to working with you, through to the final implementation here in Winnipeg

I: Observations

- ❑ Need RUC
- ❑ High cost
- ❑ Governments unsure if/how to proceed
- ❑ Little public understanding
- ❑ Low driver acceptance
- ❑ Privacy issue important

II: Enablers

- ❑ FGPS (Financial-grade GPS, technically: 'liability-critical' GPS)
- ❑ Multiple applications to reduce costs
- ❑ Value added services (VAS) promote understanding
- ❑ Volunteer programming to increase government knowledge and driver acceptance
- ❑ ISO, standards-based data proxy architecture for privacy and anonymity

III: Programs

- ❑ Ticket-free parking
- ❑ PAYD Insurance
- ❑ Green rewards
- ❑ Loyalty parking
- ❑ Discounts on existing tolls
- ❑ Voluntary switch (with fuel tax discount)
- ❑ Parking finder
- ❑ Regional tolling if and when ready

Plus:

- ❑ Safety (CVIS)
- ❑ Navigation
- ❑ Traveler info
- ❑ Internet
- ❑ more...

IV: Outcomes

- ❑ Stop antagonistic 'Car-Wars'
- ❑ Start getting drivers on your side
- ❑ Address congestion sooner
- ❑ *More behaviour changing signals*
- ❑ Attract rather than repel
- ❑ Allows more policy testing
- ❑ Voluntary reduces political risk
- ❑ Encourage, not mandate
- ❑ More carrot, less stick
- ❑ Rewards attract drivers to try it out

Stage	# Cars	Partners	Facets	Focus
Study <i>3-4 months</i>	100	<input type="checkbox"/> 1 municipality <input type="checkbox"/> <i>Meter operator</i> <input type="checkbox"/> <i>Project manager</i> <input type="checkbox"/> <i>Steering committee</i>	<input type="checkbox"/> One or two of: <ul style="list-style-type: none"> • Driver rewards • Modality choice • Hands-free/ticket-free parking with Municipality • Car-share? Institution? Transit? parking • Measure carbon footprint • Parking cash-outs 	<input type="checkbox"/> Set expectations
Ready <i>1 year</i>	1,000	<input type="checkbox"/> 3 municipalities <input type="checkbox"/> Same partners as Study <input type="checkbox"/> + <i>Billing operator</i>	<input type="checkbox"/> Service all existing toll programs <input type="checkbox"/> Hands-free/ticket-free parking <input type="checkbox"/> Carbon-reduction program <input type="checkbox"/> Encourage modality shift <input type="checkbox"/> Aggregate data to study re price-mapping <input type="checkbox"/> Learn operational challenges	<input type="checkbox"/> Discovery <input type="checkbox"/> Business effectiveness <input type="checkbox"/> Driver Reward & convenience
Set <i>2 years</i>	10,000	<input type="checkbox"/> 20 municipalities <input type="checkbox"/> Same partners as Ready <input type="checkbox"/> + <i>Insurance carrier</i> <input type="checkbox"/> + <i>Regional DOT</i> <input type="checkbox"/> + <i>Regional environmental authority</i>	<input type="checkbox"/> Start a commitment to PAYG <input type="checkbox"/> Large deployment <input type="checkbox"/> User choice (multi-operators, multi-insurance) <input type="checkbox"/> Data to study legislative needs <input type="checkbox"/> Start expanding parking management programs <input type="checkbox"/> Start to manage spillover <input type="checkbox"/> Start re-allocating some pay+display meters	<input type="checkbox"/> Wide deployment <input type="checkbox"/> Reliability <input type="checkbox"/> Trust <input type="checkbox"/> New habits <input type="checkbox"/> New programs
Go <i>2+ years</i>	100,000-1,000,000	<input type="checkbox"/> Mega-region <input type="checkbox"/> Same partners as Set <input type="checkbox"/> + <i>Multiple insurance</i> <input type="checkbox"/> + <i>Multiple operators</i>	<input type="checkbox"/> Ready for significant shift in parking management <input type="checkbox"/> Self-funded & and a net revenue generator <input type="checkbox"/> Reallocation/attrition of on-street park meters <input type="checkbox"/> Study road use charging potential <input type="checkbox"/> Significant targets in PAYD insurance <input type="checkbox"/> Significant green vehicle & abstinence programs	<input type="checkbox"/> New parking services <input type="checkbox"/> Self-funded <input type="checkbox"/> Ready to fund transportation programs or replace gas-tax

Table: Multi-year migration of massive numbers of vehicles to multi-function payment telematics for road-tolling, parking payment, PAYD Insurance. Reward and loyalty programs can be incorporated.

Skymeter Data Overview

Bridging the Gap from Windshield to Billing Office

