



A National Pricing System: We May Need Both DSRC and GPS

Ed Regan

Executive Vice President

Wilbur Smith Associates



Moving Off the Gas Tax

- **Without major changes, the motor fuel tax will not be able to generate the revenue needed to maintain and expand our nation's transportation infrastructure in the future**
- **An ominous trend**
 - Political reluctance to raise tax rates
 - Increasing fuel efficiency
 - Search for alternative fuels
 - Urgent need to deal with global warming
- **Major inconsistency in national policy**
 - The backbone of all transportation finance is dependent on the taxation of a commodity we seek to discourage the use of !!

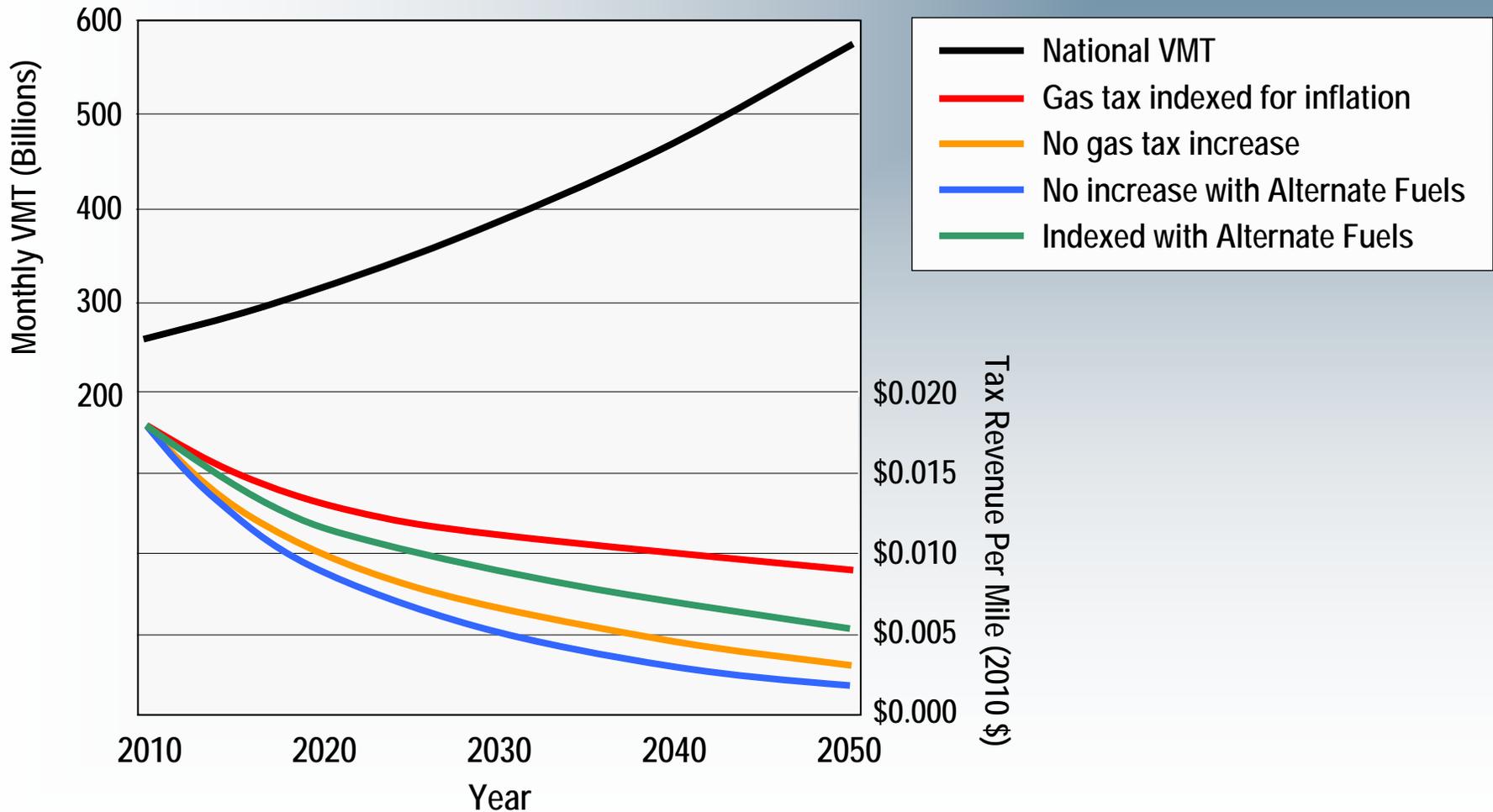


The Trend is Accelerating

- **Rapid increases in gas prices**
 - Over \$4.00 per gallon and rising
 - Urgent search for alternative fuels
- **Sudden and dramatic shift in consumer demand for fuel efficient vehicles**
 - High demand for hybrids
 - Low demand for trucks and SUV's
 - Auto Industry undergoing massive production shift
- **Federal policy to increase fleet fuel efficiency to 35 MPG by 2020**
- **We're about to get very serious about Climate Change in the US**



The Gas Tax: Unsustainable Revenue Source





Increasingly Clear National Policy Direction

- **National Policy Commission suggests gas will only be sufficient until 2025**
 - Suggests strong consideration of VMT fees
 - Calls for major planning effort in next reauthorization
- **“Minority Opinion” even stronger**
 - Includes Secretary Peters and 2 other members
 - Gas tax is “already broken”
 - Need to link road usage with payment mechanism
 - Need to manage demand through pricing
 - Can be done in 10 years
- **National Finance Commission looking for alternatives to gas tax**
 - Consideration of VMT fee and widespread tolling
- **It is increasingly clear: US will likely transition off the gas tax between 2020 and 2030**



Key Point

- **The problem with the gas tax is not that it is inefficient**
 - It is efficient
- **The problem with the gas tax is that it is not sustainable --- in the face of:**
 - High gas prices
 - Increasing fuel efficiency
 - New alternative fuels
 - Global warming
 - Need for energy independence
 - Political realities



A Vision for the Future: A National Transportation Pricing System

- **Every vehicle in America equipped**
- **Fully automated electronic fee collection**
 - Multi-modal
 - VMT fees to replace fuel tax
 - Toll collection
 - Congestion pricing
 - Transit fares
 - Parking charges
- **Potential for integration with ITS services**

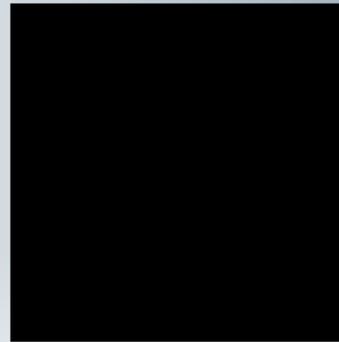


Many Challenges

- **Perceived overwhelming technical complexity**
- **Privacy Issues**
- **Enforcement and Security**
- **Perceived high cost of deployment and operations**
 - As compared with gas tax
- **Payment and collection issues**
- **Revenue distribution issues**
- **Equity issues**



One Possible Solution



Black Box



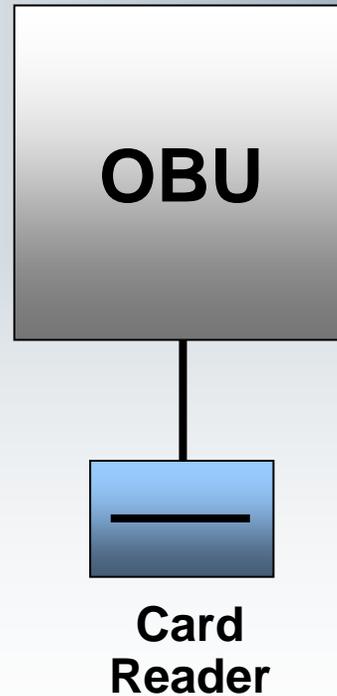
One Potential Solution



On Board Unit



One Potential Solution





A Key Part of the Solution: National Travel Card

National
Travel
Card

Individual
Smart
Card

Travelers Choice

National
Travel
Account

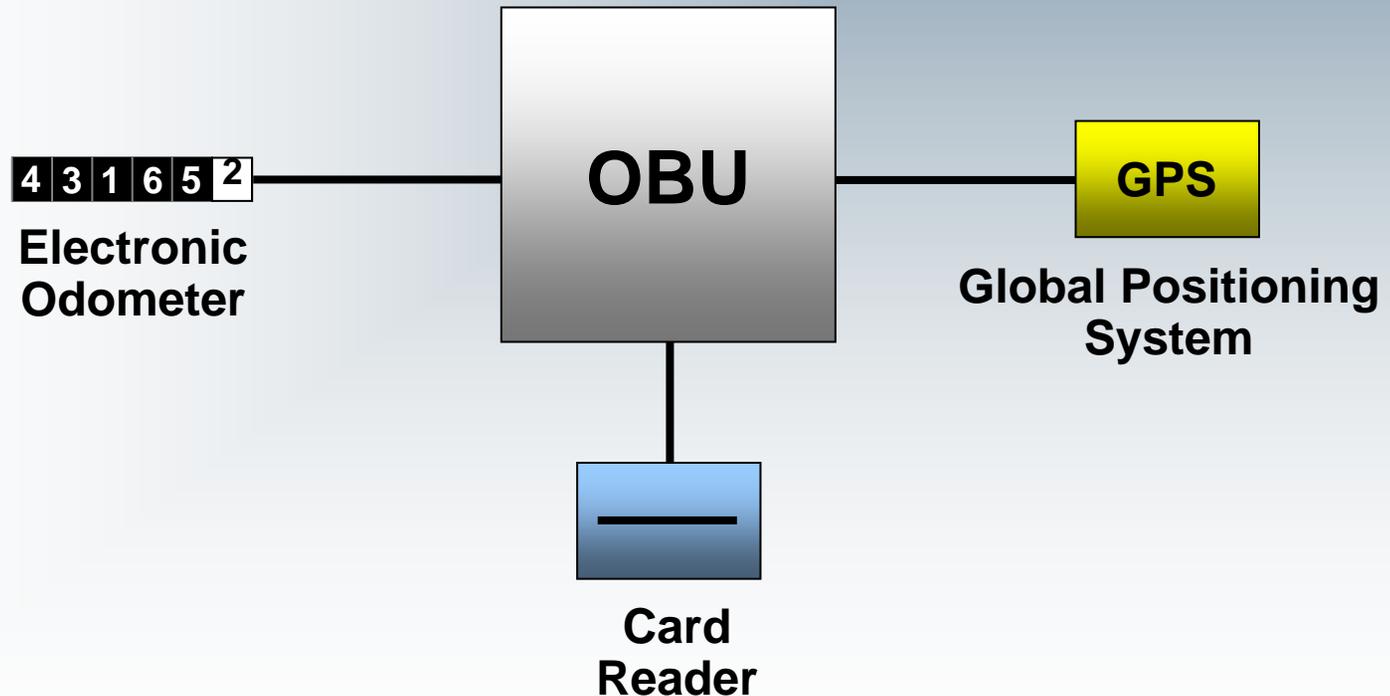
Private
Stored
Balance

- Maximize convenience where privacy not a concern
- Linked to credit card or bank account
- Requires no action by user once opened

- Fully anonymous
- No travel data stored; not linked to person or vehicle
- Network of stored balance replenishment options

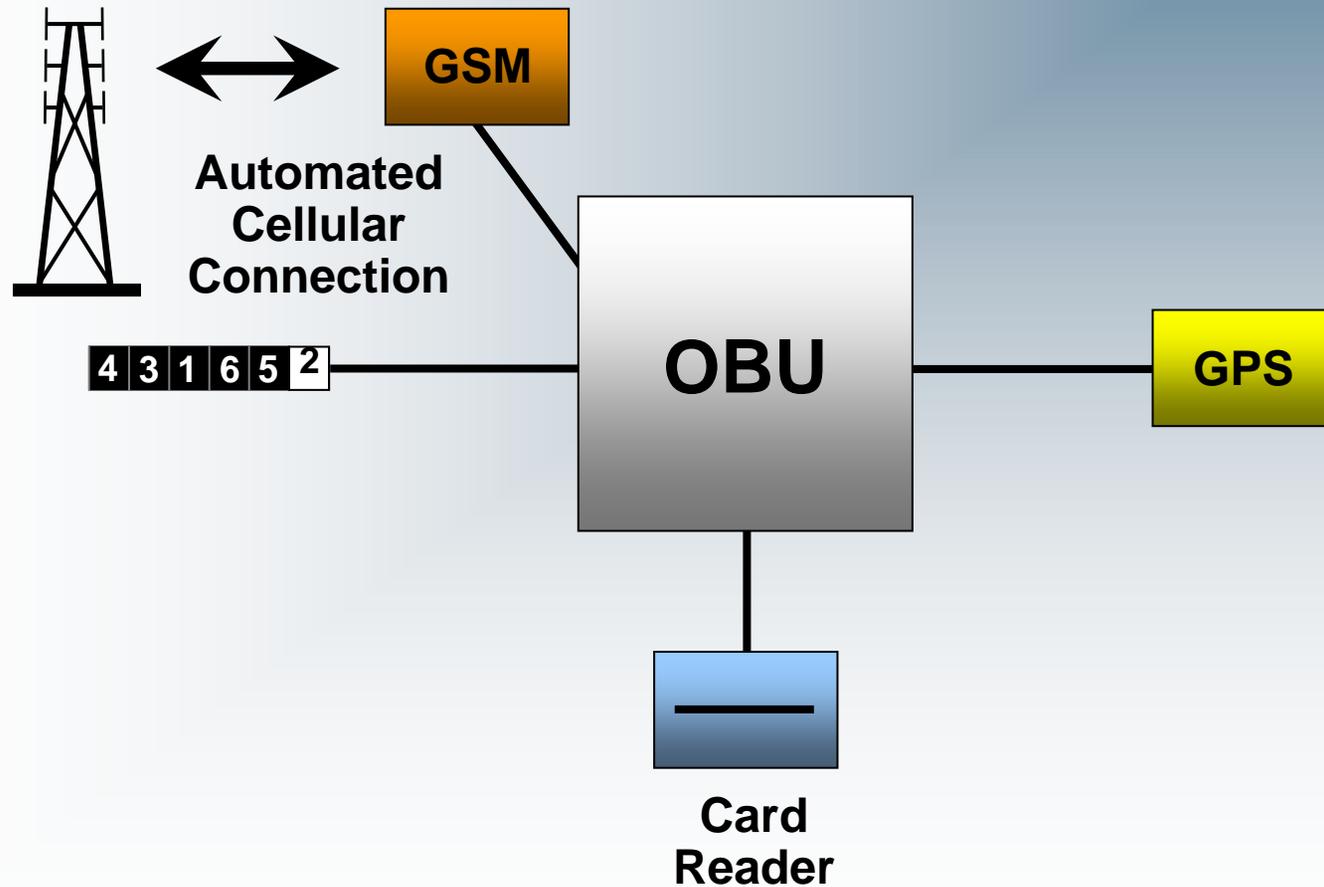


VMT Fee Functions



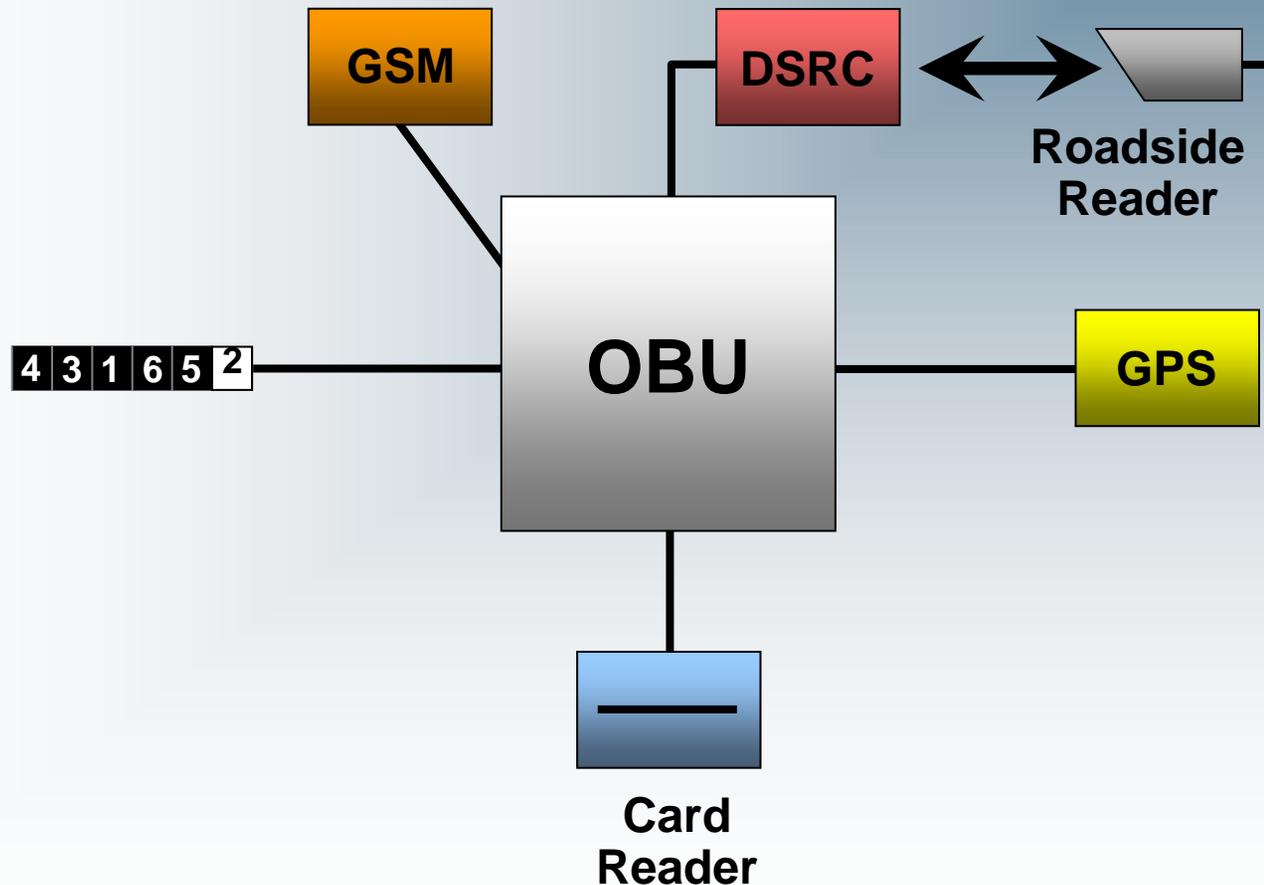


Downloading VMT Fee Data



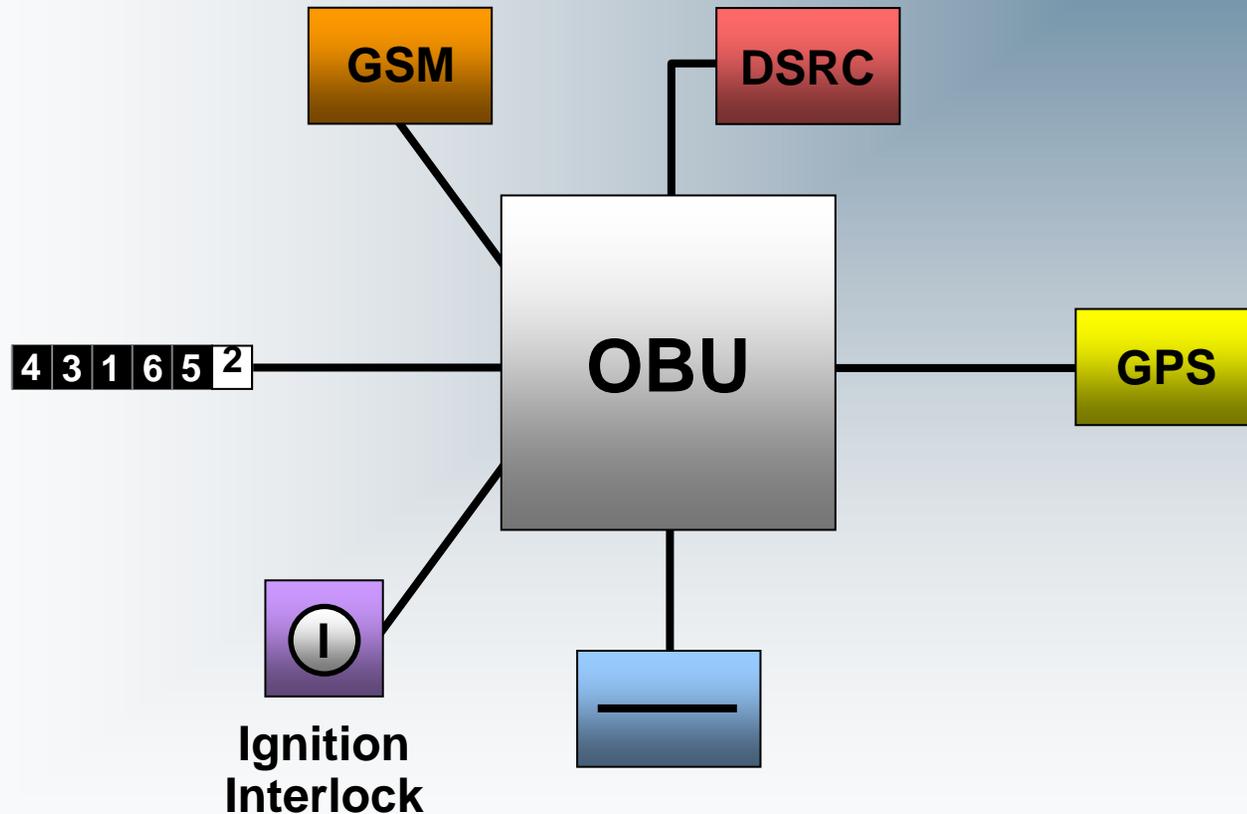


Other Direct Pricing Applications



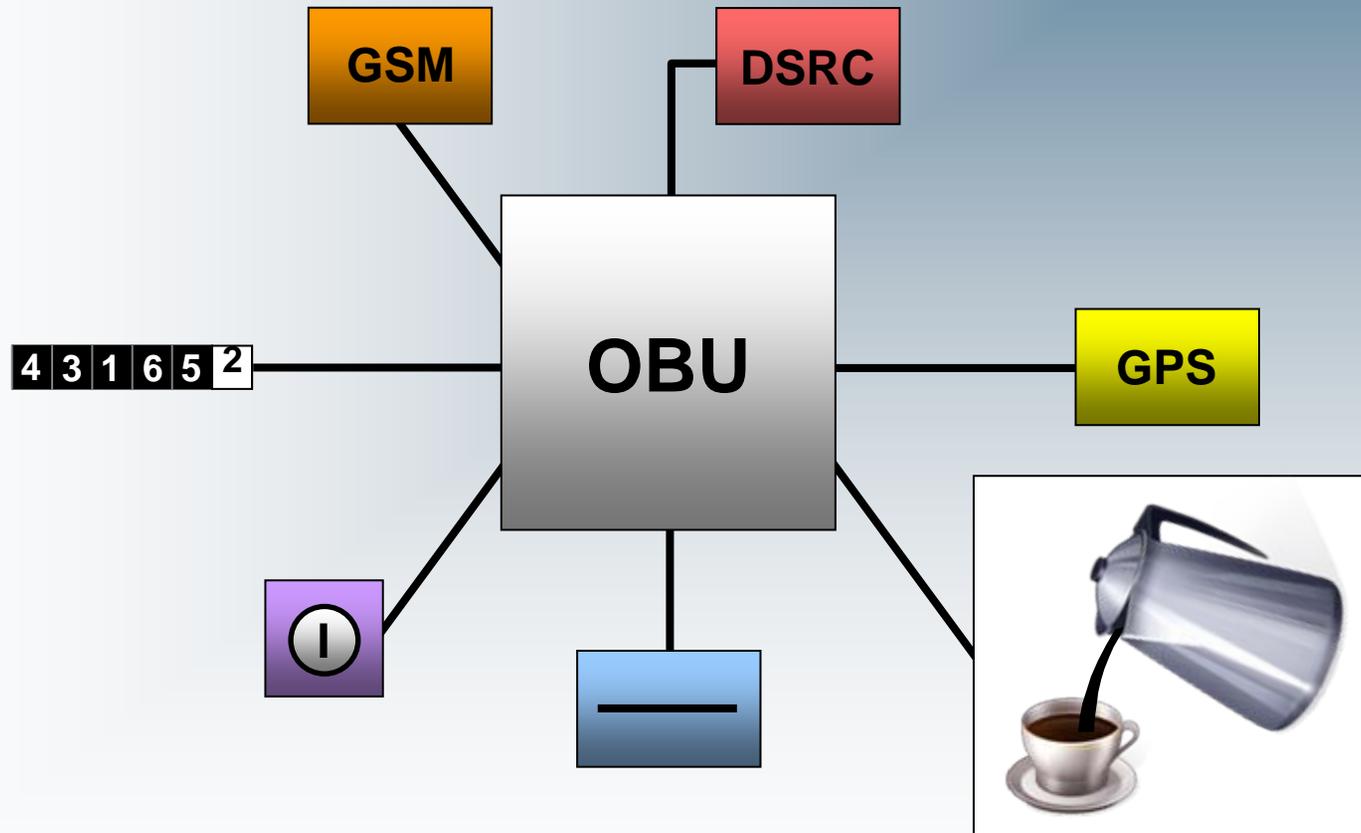


Dealing with Enforcement and Security



Special Summit on Open Road Tolling

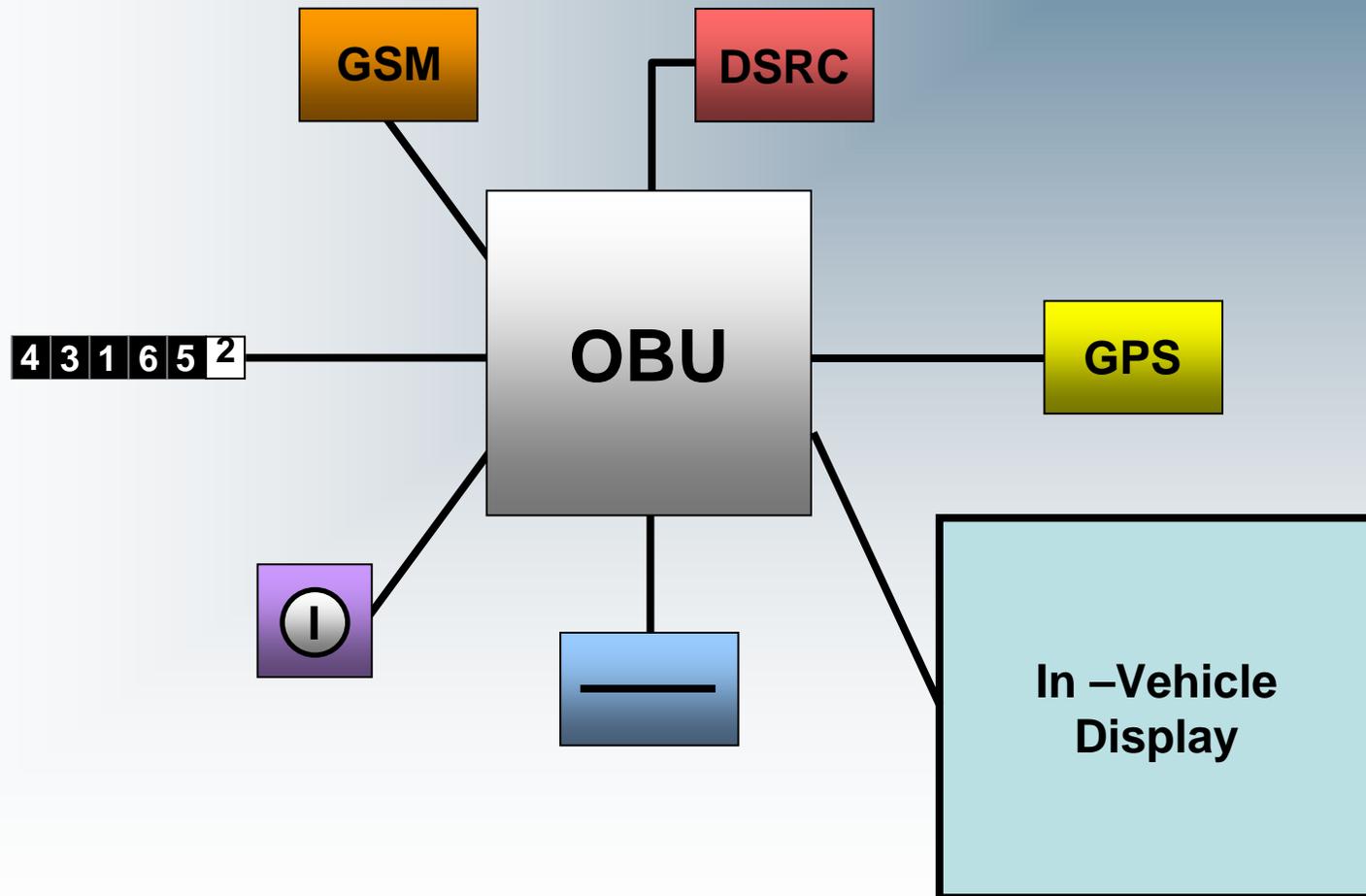
The End of Cash Collection?



**Coffee Maker
(Just Kidding)**



Account Information Feedback



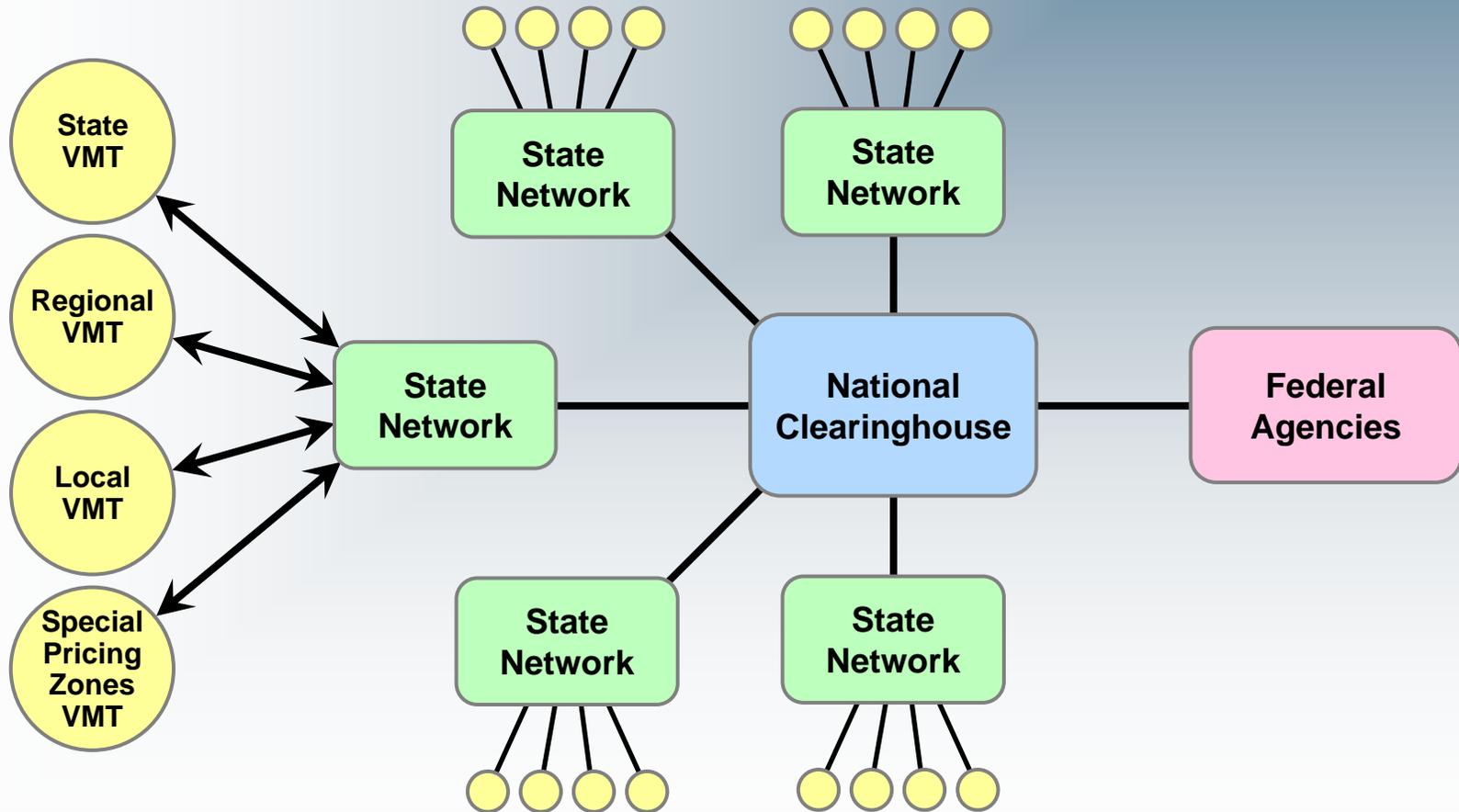


Multiple Uses for Pricing System and Travel Card

- **All tolls and road user charging**
 - VMT fees
 - Congestion charging
 - Managed lanes
- **Parking payments**
- **Transit usage (direct card)**
- **Taxis (direct card)**
- **In-vehicle ITS services**
- **Access Control and Security**



State-Level VMT Fee Distribution Networks





Typical Jurisdictional Pricing Levels – State



Chicago Regional Pricing Area

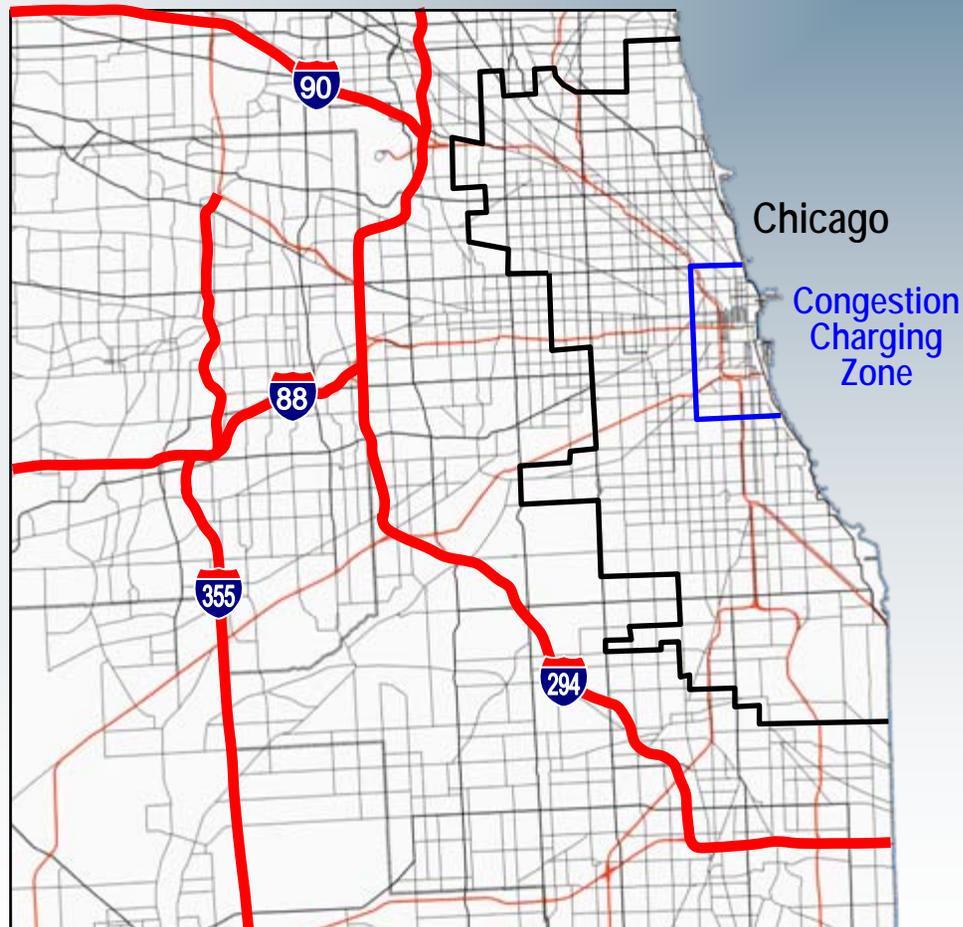


Typical Jurisdictional Pricing Levels – Regional





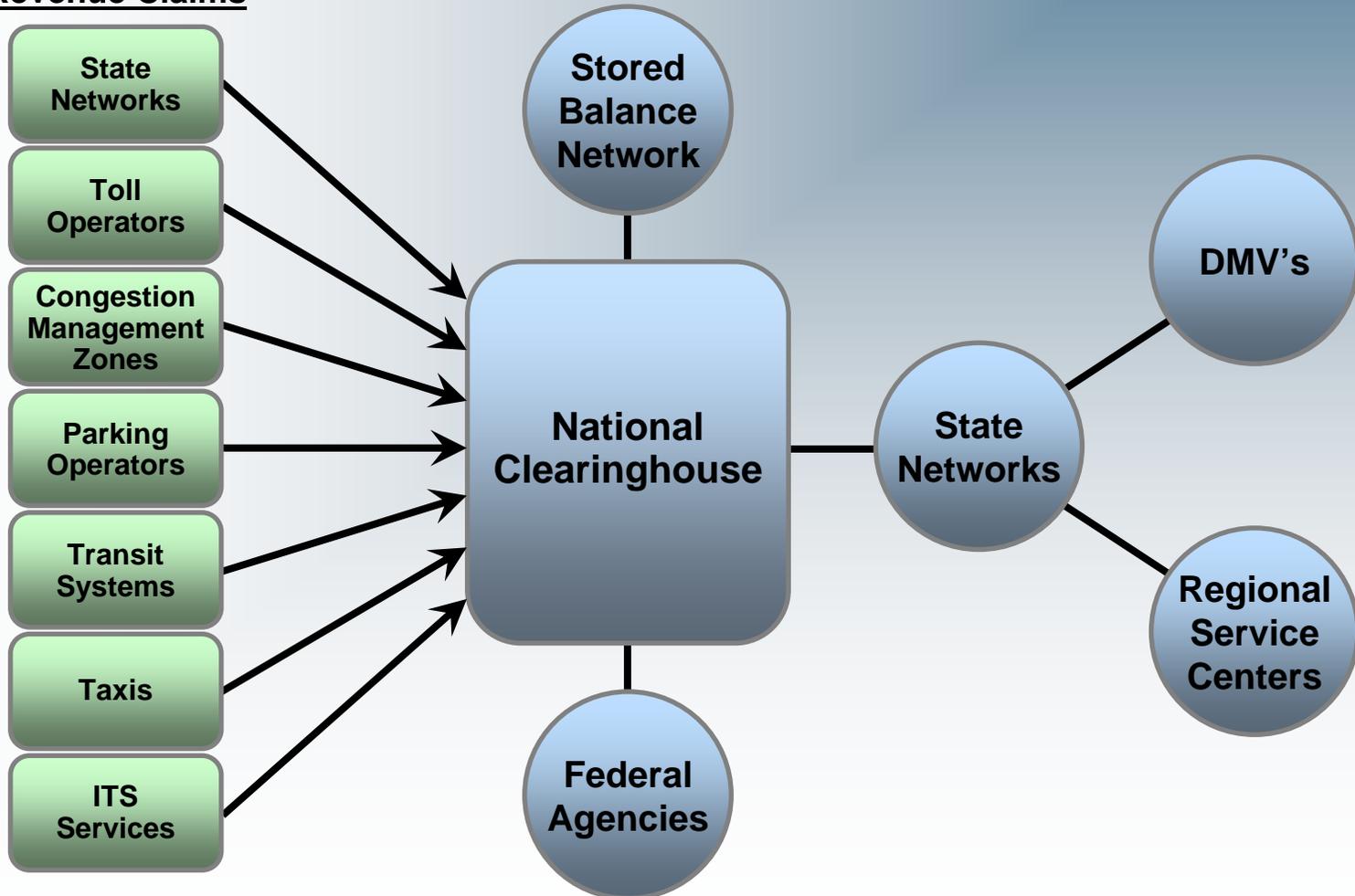
Typical Jurisdictional Pricing Levels – Municipal and Special Pricing Zones





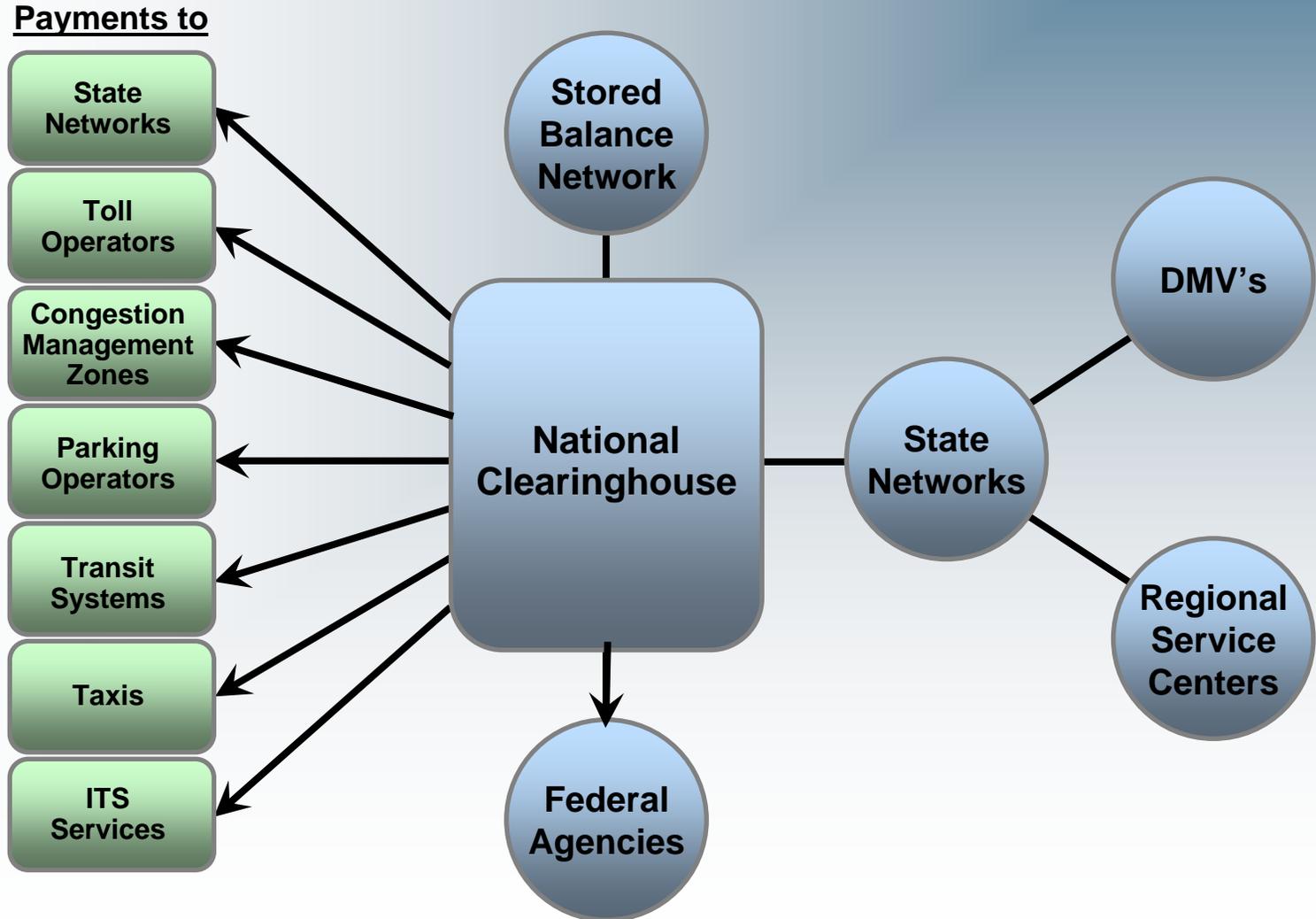
National Network Concept

Revenue Claims



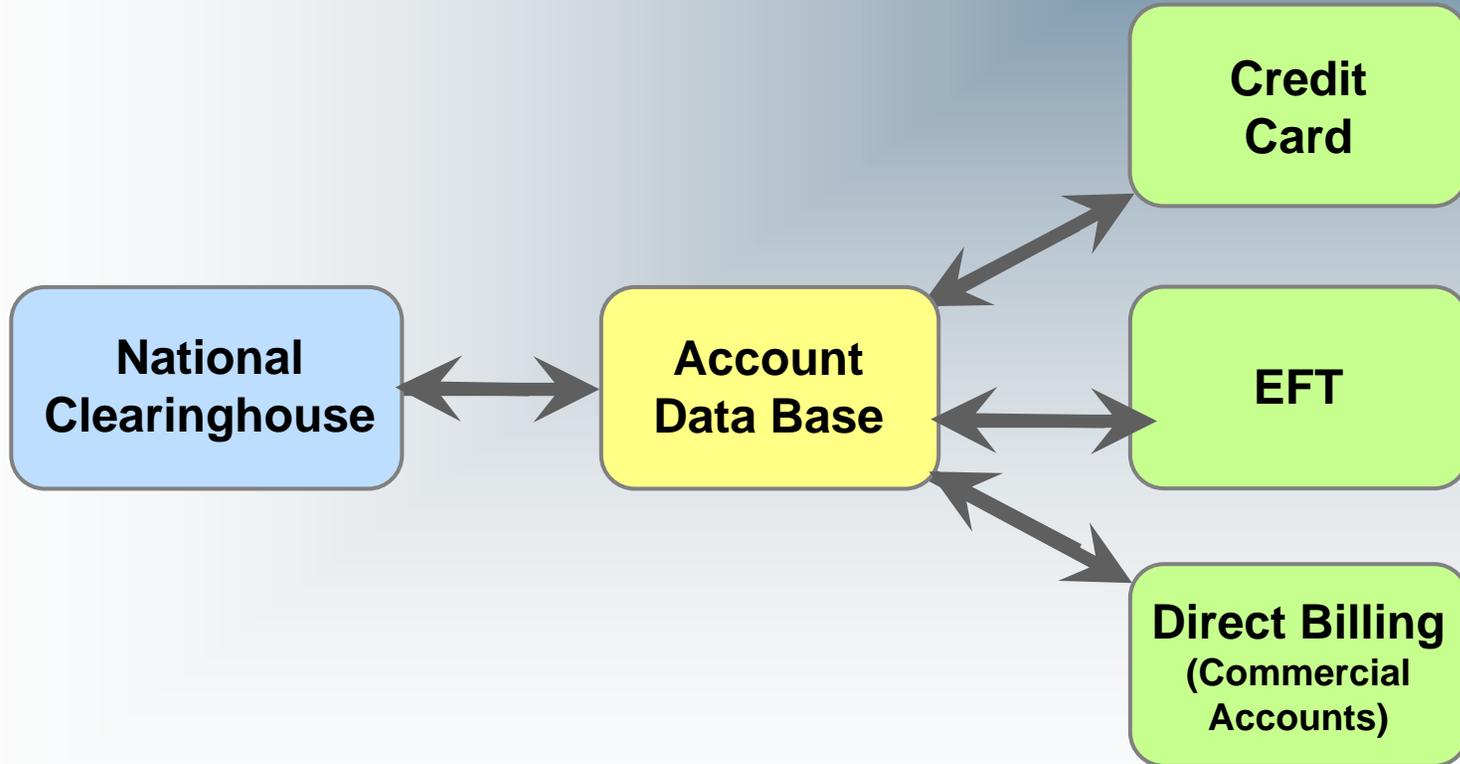


Revenue Transfer to Federal, States and Service Providers



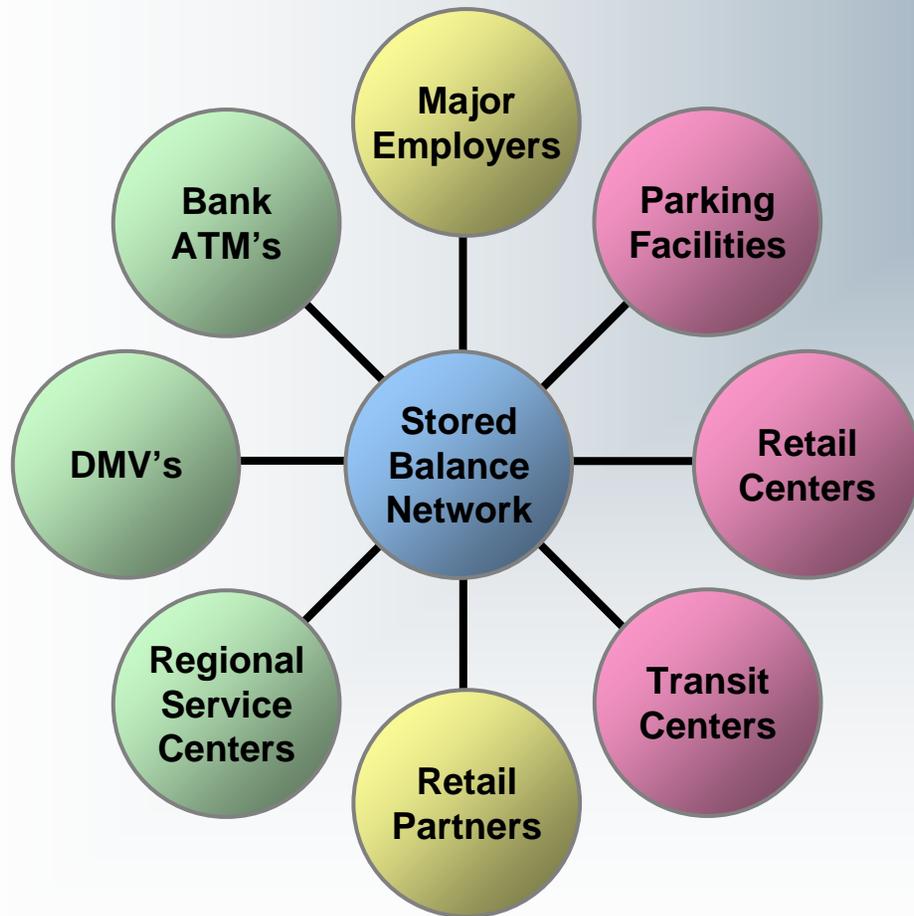


National Travel Account Management





Stored Balance Replenishment Options



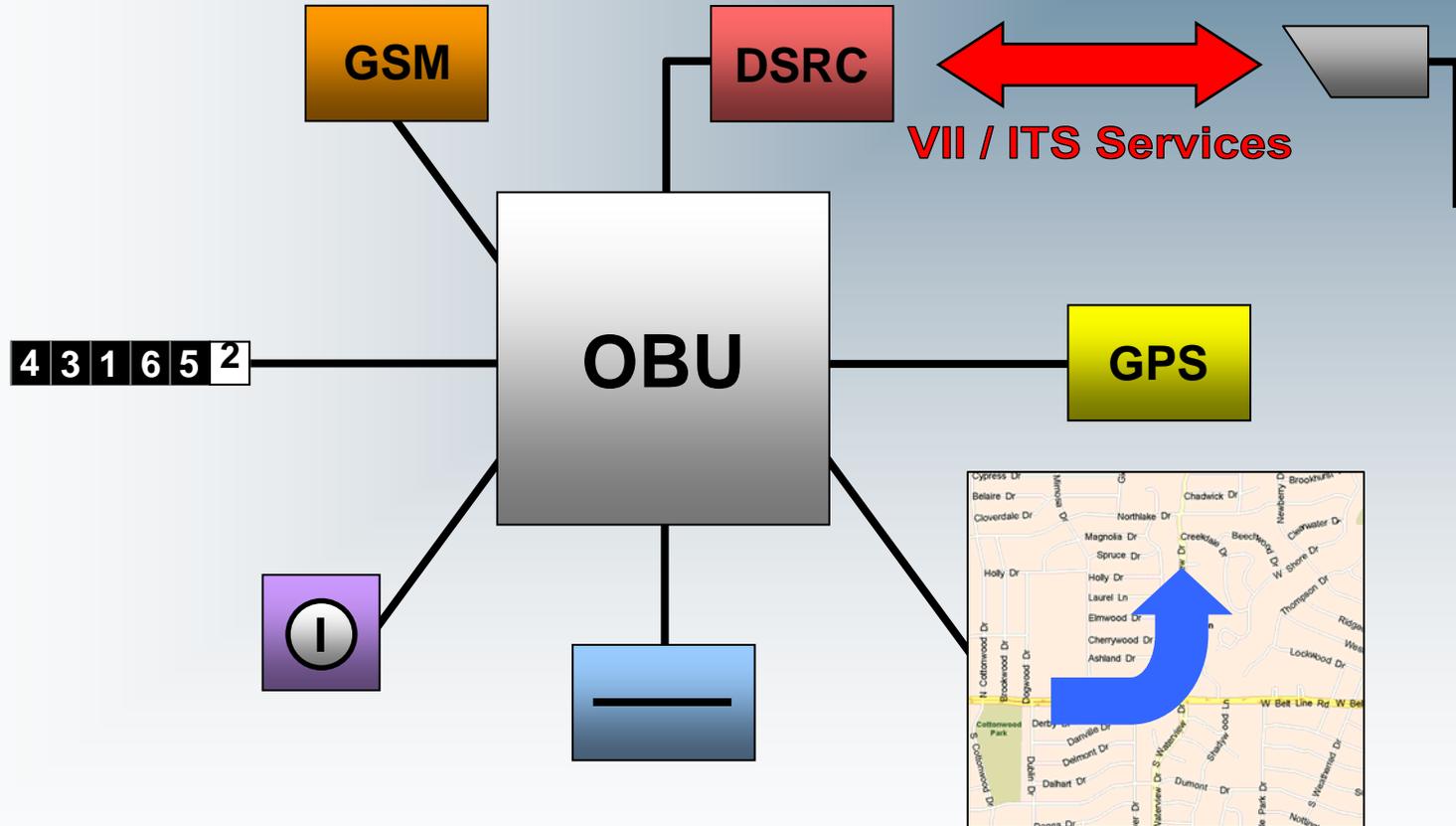
Kiosks

ACCEPT

- **Cash**
- **Credit Card**
- **Debit**



Potential VII and Other ITS Services





Rough (very rough) Costs??

- **Probably \$200-\$300 per vehicle**
 - About 1% of vehicle cost
 - About 2% of revenue collected over life of device
- **Initial Cost to equip national fleet**
 - About \$50-\$60 billion
 - Less than 20% of the \$300 billion needed annually for transportation
- **Future net annual costs about \$15-\$20 billion per year**
 - About 5-7% of annual revenue collected