



A National Pricing System

One Possible Solution

Presented To
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The Gas Tax: A System at Risk

- Without major changes, the motor fuel tax will not be able 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
- 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 !!
- 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

Increasingly Clear National Policy Direction

- National Policy Commission suggests gas will only be sufficient until 2025
 - Suggested strong consideration of VMT fees
 - Calls for major planning effort in next reauthorization
- National Transportation Infrastructure Finance Commission recommends moving off gas tax by 2020
 - Most detailed and specific recommendation yet
 - Stresses urgent need to move to direct road user charging to provide
 - Sustainable revenue source
 - Mechanism to manage demand
- It is increasingly clear: **US will likely transition off the gas tax between 2015 and 2025**

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:
 - Need to reduce congestion
 - 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
 - VMT fees to replace fuel tax
 - Tolling and Pricing
 - Transit fare Payment
 - Parking charges
- Potential for integration with ITS services

Multiple Uses of Pricing System

- Replace fuel tax with VMT tax system
- Tolling and other direct pricing applications
- VII and other ITS applications

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

A Key Part of the Solution: National Travel Card

**National
Travel
Card**

**Individual
Smart
Card**

Travelers Choice

**National
Travel
Account**

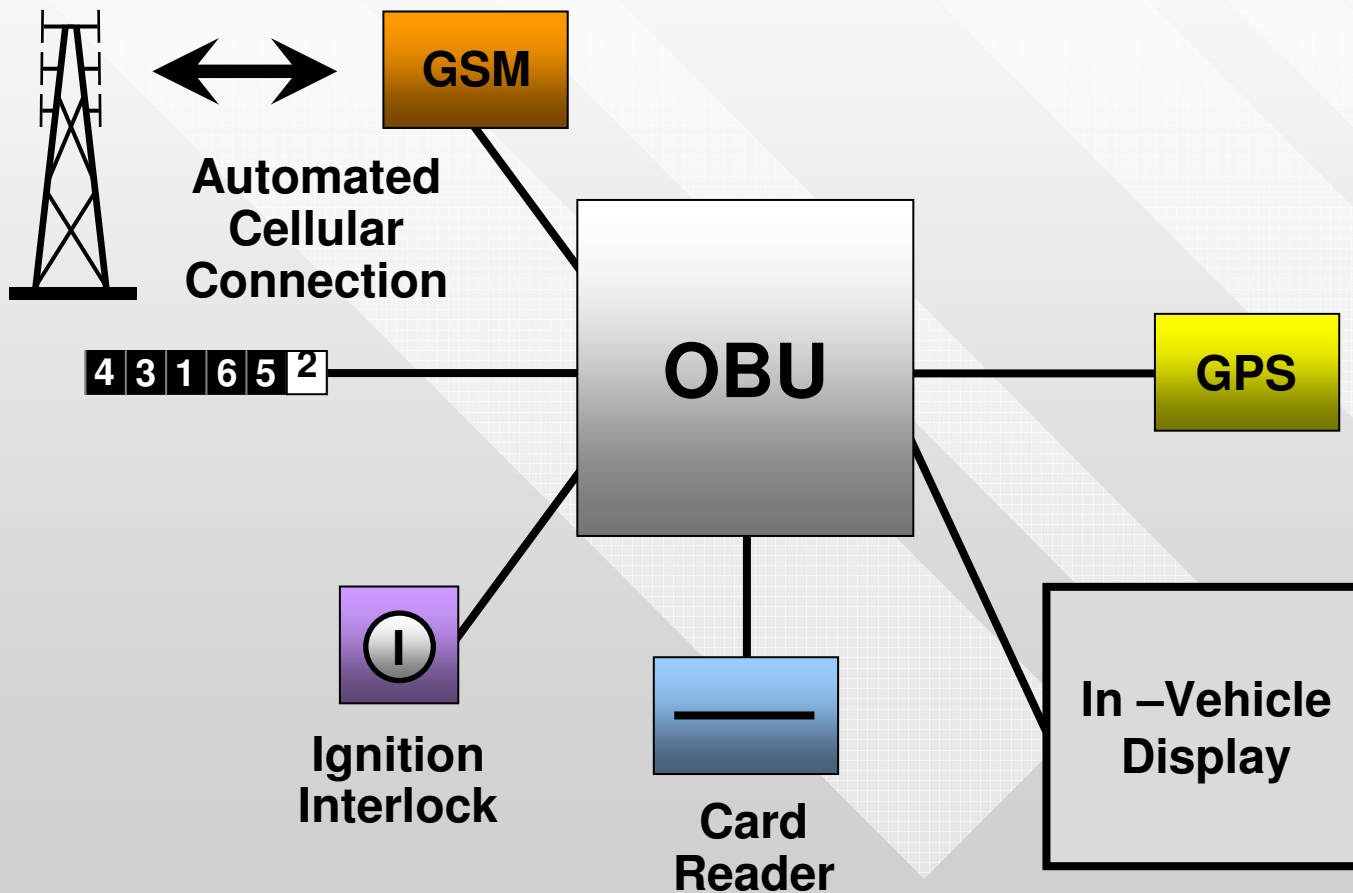
**Private
Stored
Balance**

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

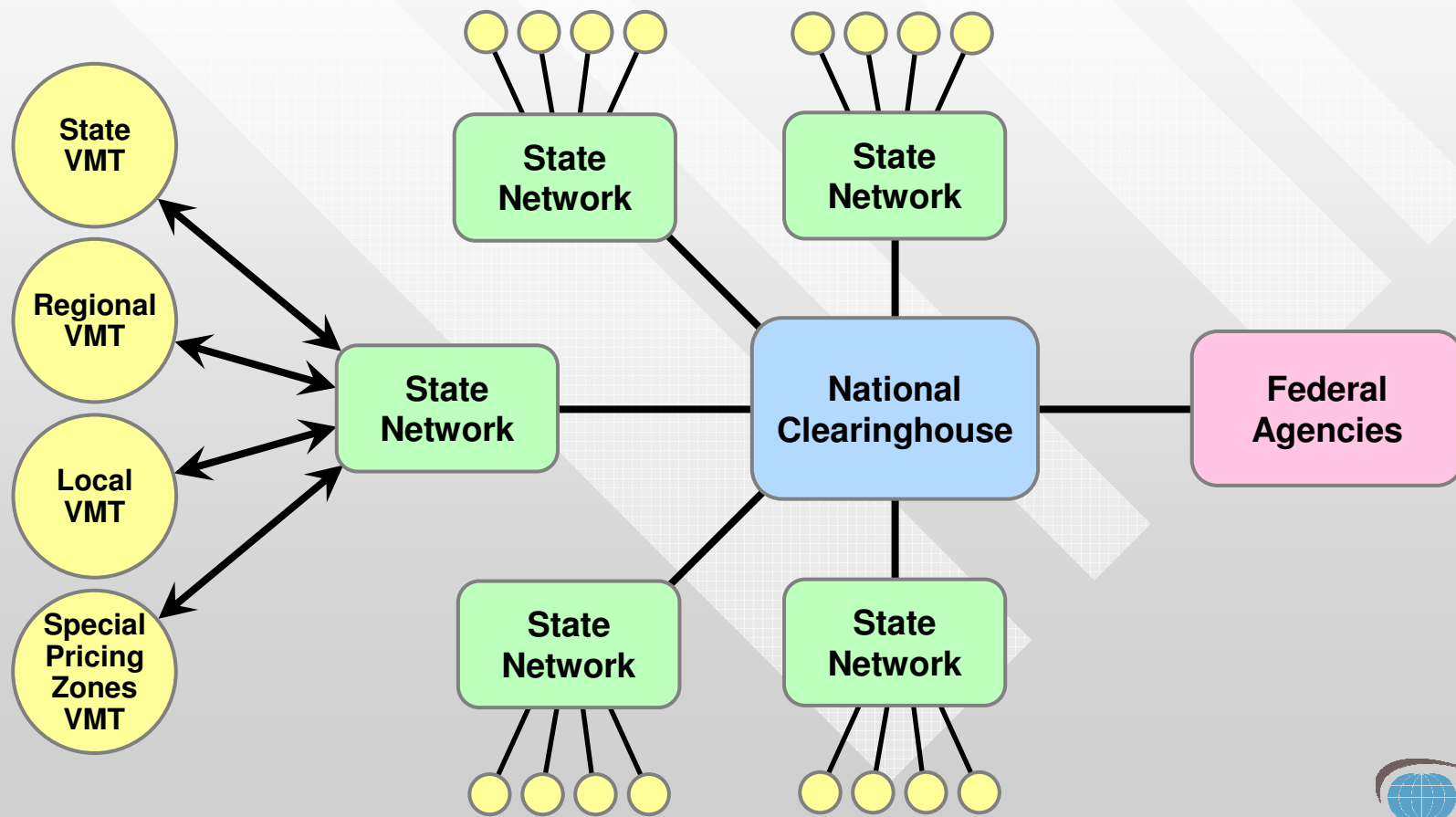
- **Fully anonymous**
- **No travel data stored; not linked to person or vehicle**
- **Network of stored balance replenishment options**
- **No credit card or bank account needed**

VMT Fee Functions

(Replacing the gas tax)



State-Level VMT Fee Distribution Networks

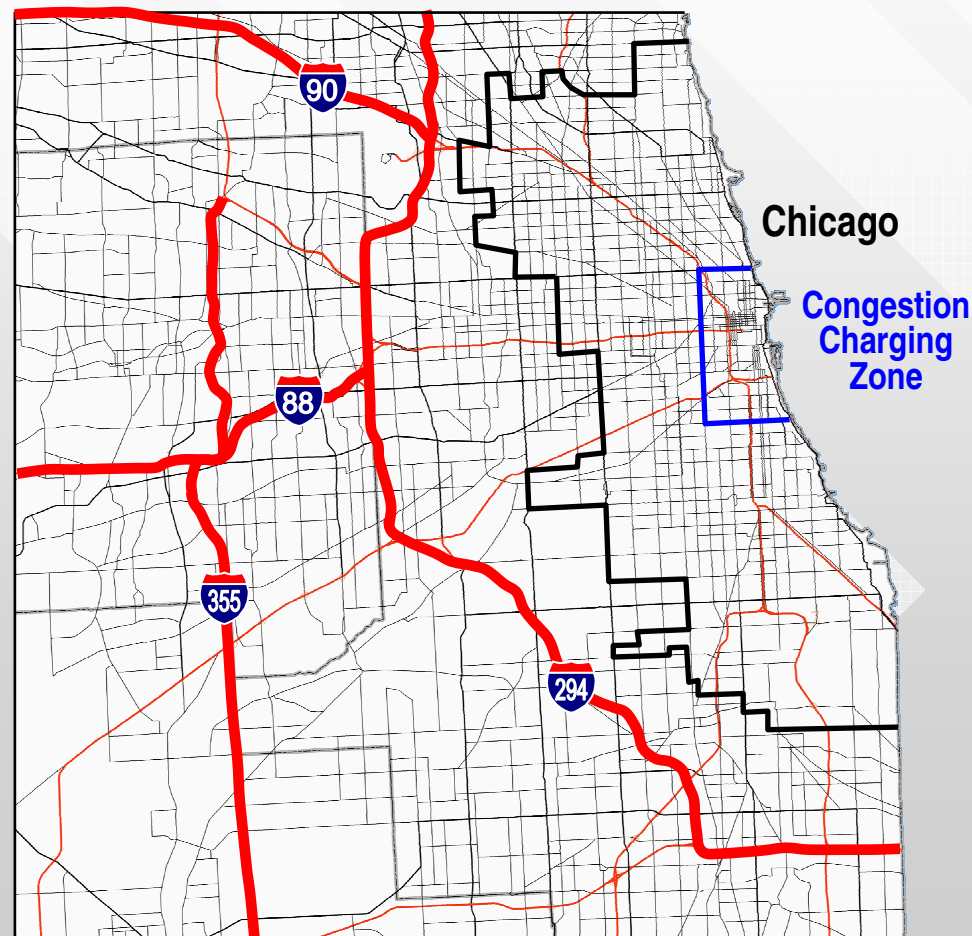


Typical Jurisdictional Pricing Levels - State



**Chicago Regional
Pricing Area**

Typical Jurisdictional Pricing Levels - Municipal and Special Pricing Zones



Hypothetical Illustration, VMT Charging Levels

Charge Component	Cost/ Mile	Travel Area			
		Outside Northeast Region	Northeast Region	Within Chicago	Congestion Change Zone
Federal Fee	\$0.010	●	●	●	●
Statewide Fee	0.020	●	●	●	●
Northeast Region Fee	0.010		●	●	●
City of Chicago Fee	0.005			●	●
Congestion Fee	0.500				●
Total Per Mile Change/Mile		\$0.030	\$0.040	\$0.045	\$0.545

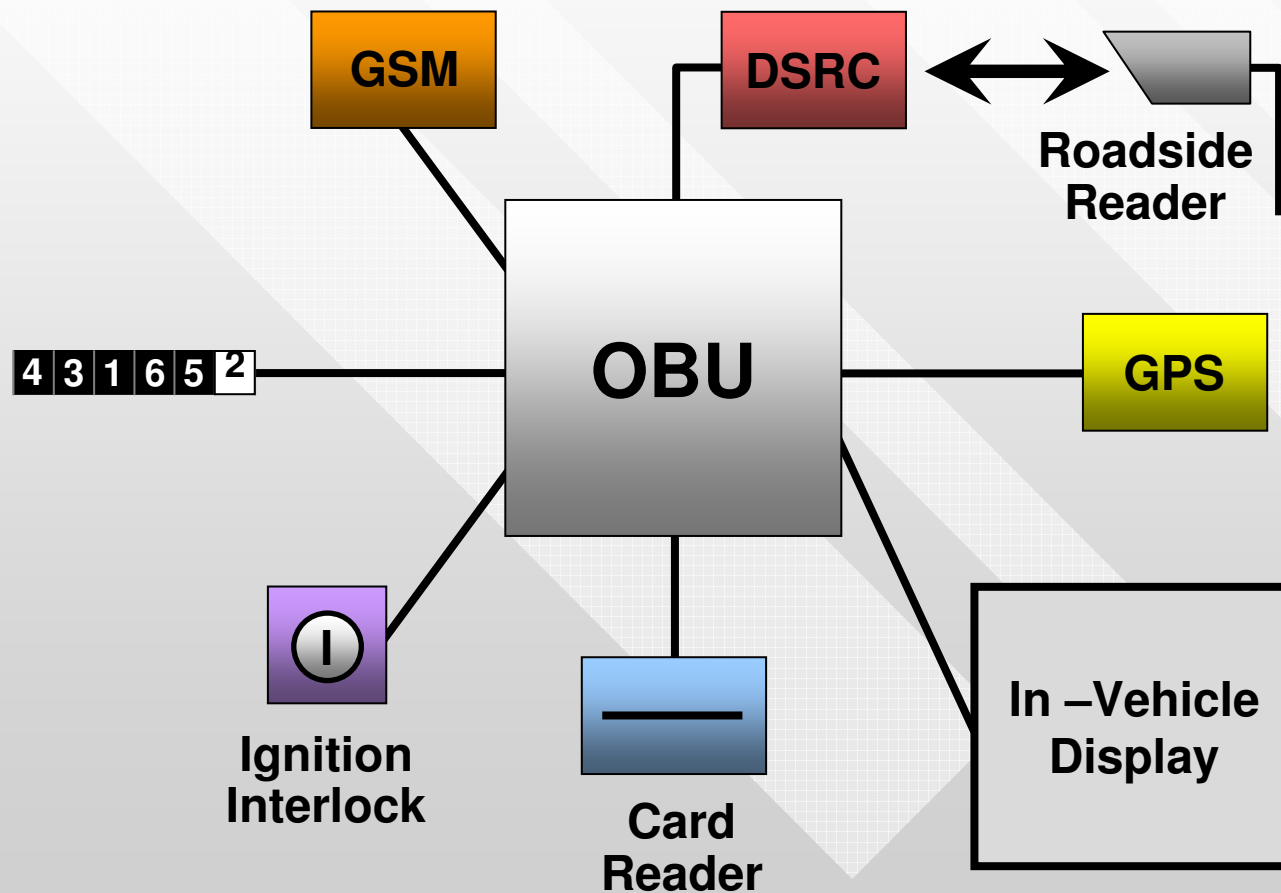
Illustrative Revenue and Distribution

- Hypothetical 50-mile trip (all Illinois)
 - 20 miles outside Northeast Region
 - 30 miles inside Northeast Region
 - 16 miles inside Chicago
 - 5 miles inside Congestion Zone
- Charges and Distribution
 - Federal (50 @ \$0.010) = \$0.50
 - State (50 @ \$0.020) = \$1.00
 - Northeast Region (30 @ \$0.010) = \$0.75
 - Chicago (16 @ \$0.005) = \$0.08
 - Congestion Zone (5 @ \$0.500) = \$2.50
 - Total trip charge = \$4.83

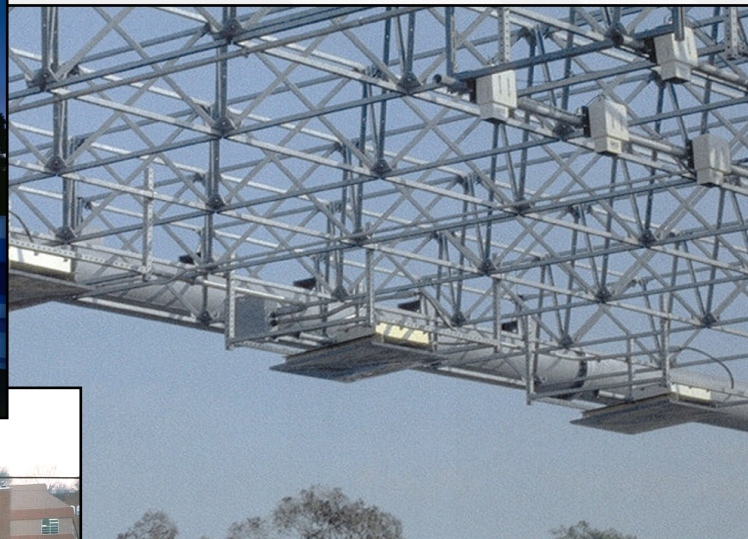
Other Direct Pricing Functions

- Toll Facilities
- HOT / Managed Lanes
- Cordon Pricing
- Parking Systems
- Transit Payments (Direct card)
- Taxis (Direct Card)
- Toll Operators and other 3rd party service providers simply “tap into” the national system
 - Greatly reduces the cost of collection
 - Greatly increases ease of pricing deployment

Adding a DSRC Link for Direct Data and Revenue Transfer



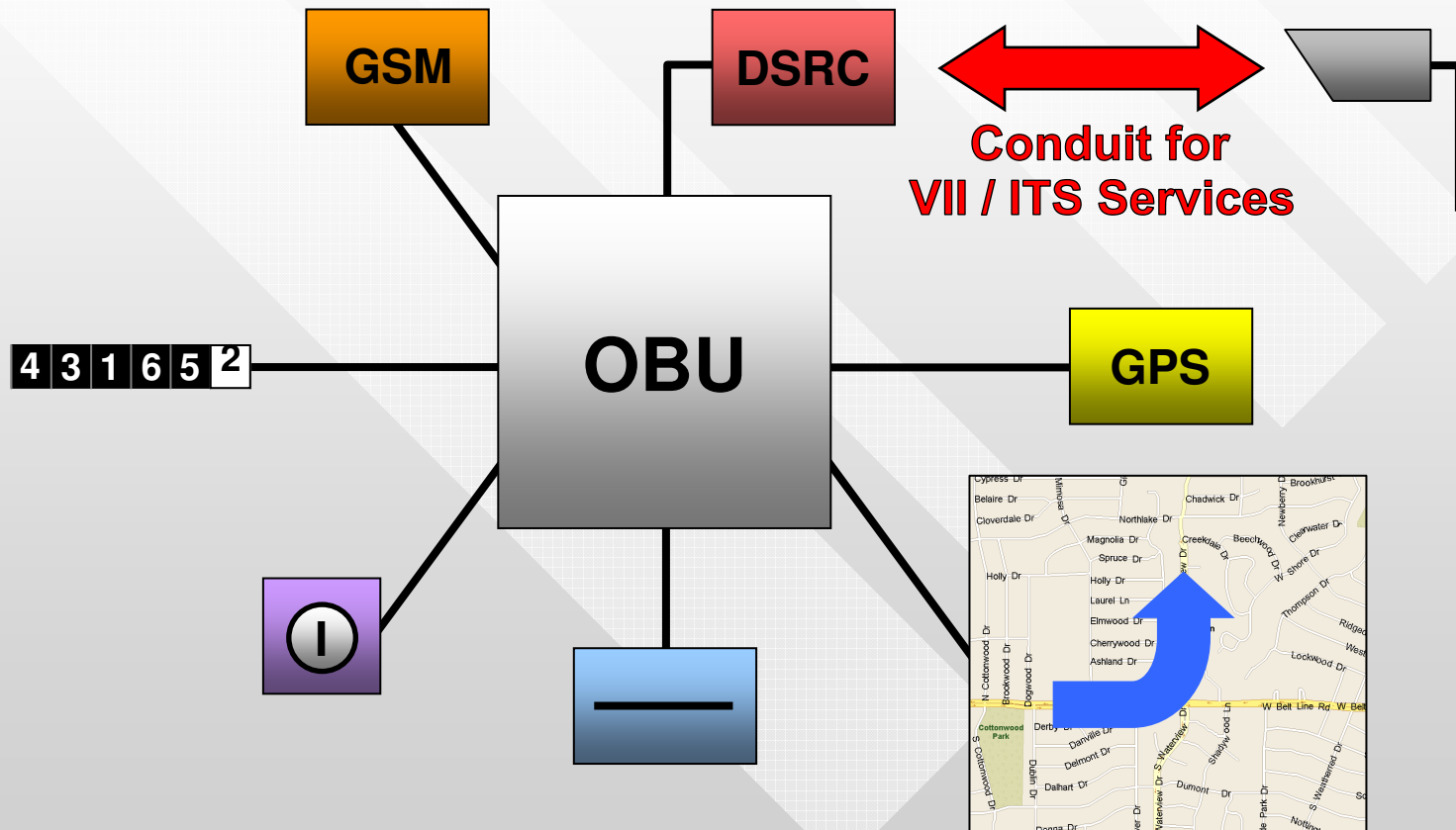
Roadside Infrastructure Provided by Toll Operations or Service Providers



In Vehicle ITS Services

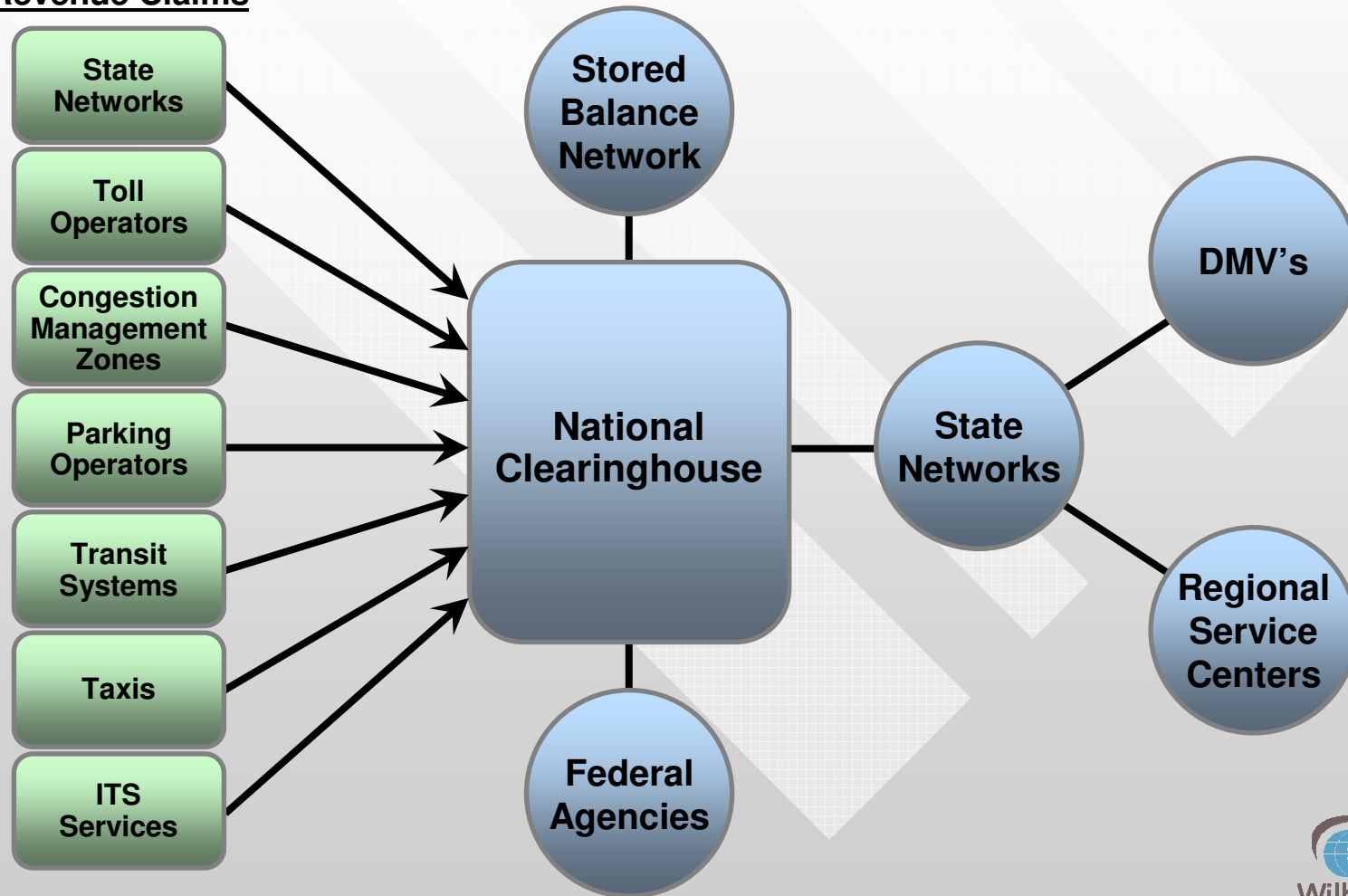
- Vehicle-Infrastructure Interface (VII)
- Dynamic Route Guidance
- Access and Security Control
- Provided by 3rd parties
 - Charges for services collected through system

Potential VII and Other ITS Services

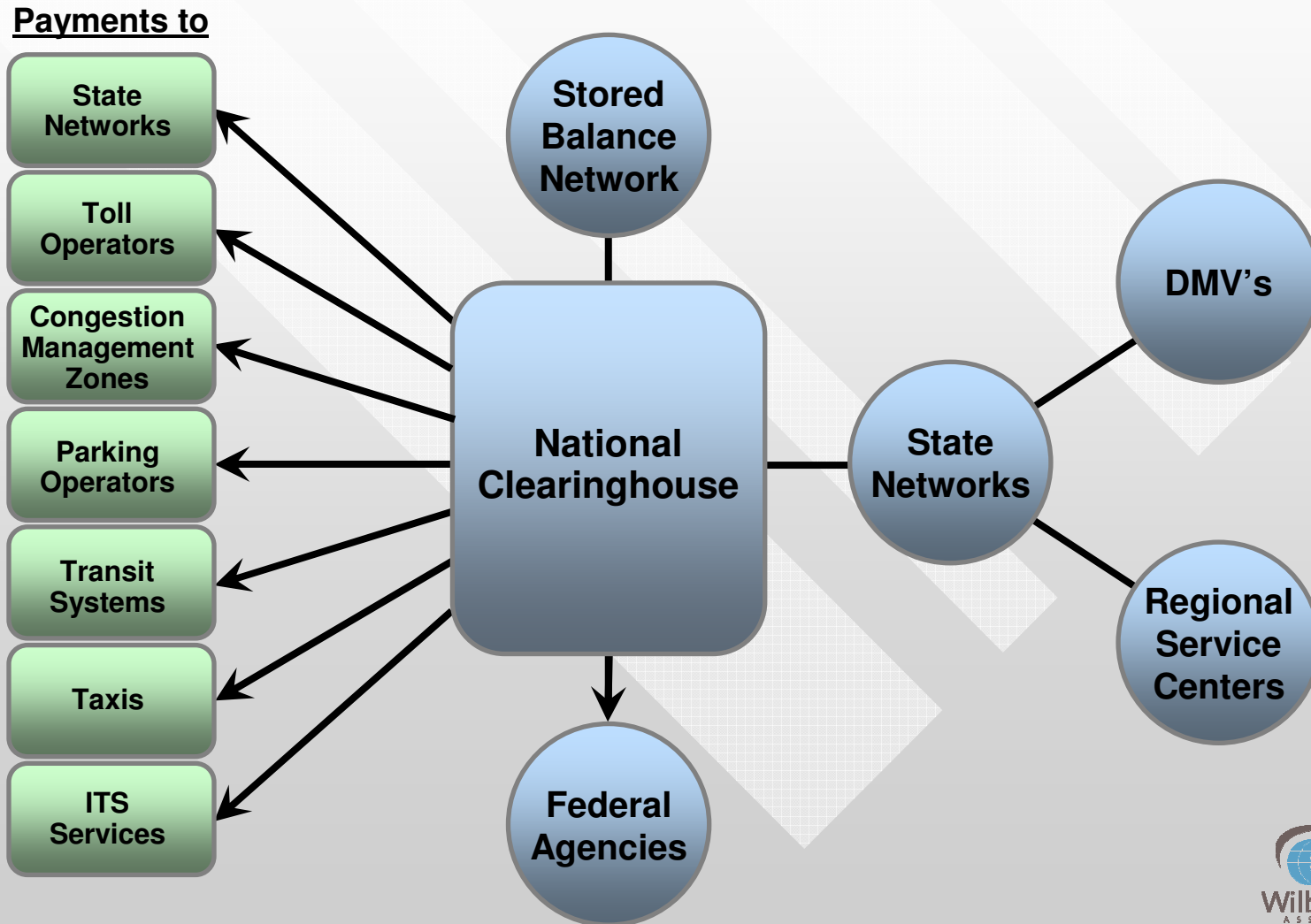


National Network Concept

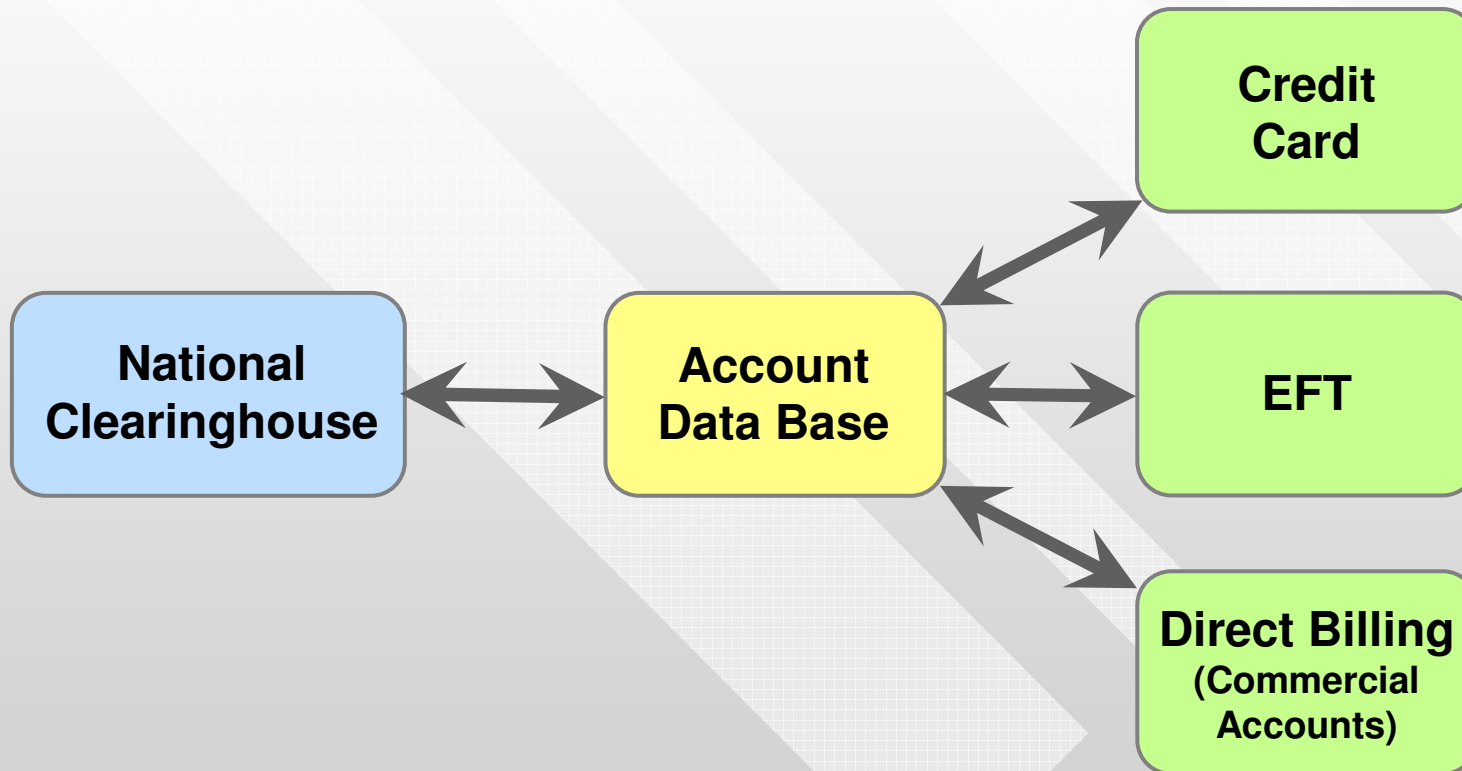
Revenue Claims



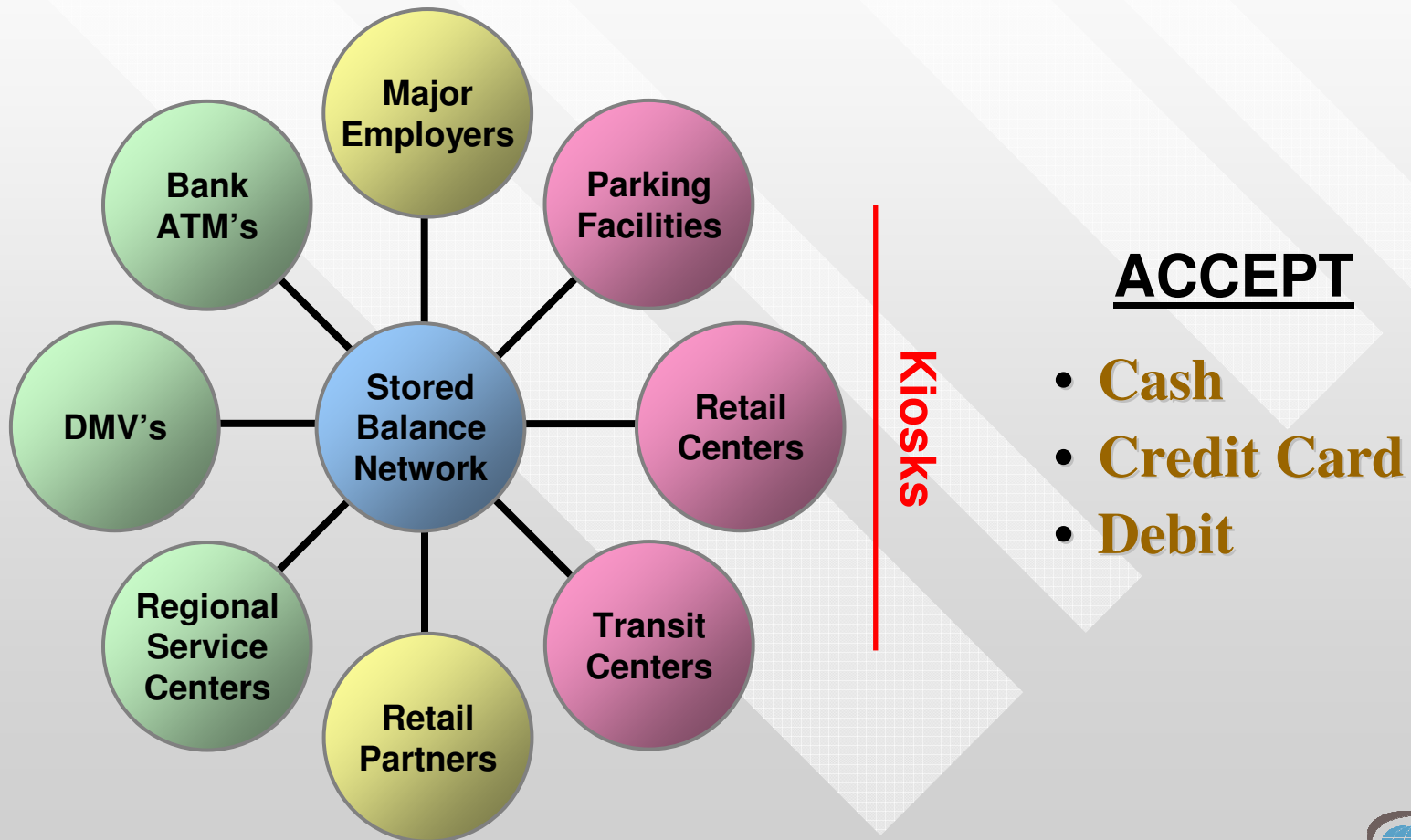
Revenue Transfer to Federal, States and Service Providers



National Travel Account Management



Stored Balance Replenishment Options



Rough (very rough) Costs??

- **Probably \$150 - \$250 per vehicle**
 - About **1%** of vehicle cost
 - About **2%** of revenue collected over life of device
- **Initial Cost to equip national fleet**
 - About \$50-\$70 billion
 - Initial cost is only **20-25%** of the \$300 billion needed **annually** for transportation
 - System could replace virtually every form of transportation revenue now collected
- **Only OBU's and Clearinghouse Structure Financed through National System**
 - All roadside and other local system equipment cost paid by 3rd party users "tapping into" the national system
- **Future net annual costs about \$15-\$25 billion per year**
 - About **5-10%** of annual revenue collected
 - Major part of operating cost offset by third party service providers "tapping into" system

In Summary...

- A national pricing system is needed to provide a sustainable foundation for transportation finance in the future
 - A system based on user fees and charges per mile instead of per gallon
 - A system designed to provide a single device means of electronically paying all forms of transportation fees and charges
 - A system which will link road use with payment to enable better management of demand through variable pricing
 - A system that will be seamlessly intermodal
 - A system which will preserve privacy and allow for anonymous operations for those whose choose it

In Summary...

- A pricing system framework designed to provide DSRC access to 3rd party service providers and facility operators
 - Toll and parking operators simply “tap into” the system
 - VII and other ITS services provided “on demand” – paid thru system
- A pricing system for which a large part of the operating cost can be paid by fees from 3rd party users who will find it very cost effective to tap into the system
 - Toll facilities
 - Parking facilities
 - Transit systems
 - ITS providers
 - Access control systems

In Summary...

- It will be a big investment
...and certainly more complex and costly than the gas tax
- But it will provide a sustainable future for transportation finance
- Technology is essentially here today
- All it will take is the political vision (and courage) to decide to do it
...to start the long process of planning, design, consensus building, education and deployment
- The time to start is NOW!