



The Future of Transportation:

Can You See Around the Corner?

Shelley Row, P.E., PTOE

Shelley Row Associates LLC
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Trends

80% of world's population
has a mobile phone



Think. Feel. Act.



Trends

Consolidated
information

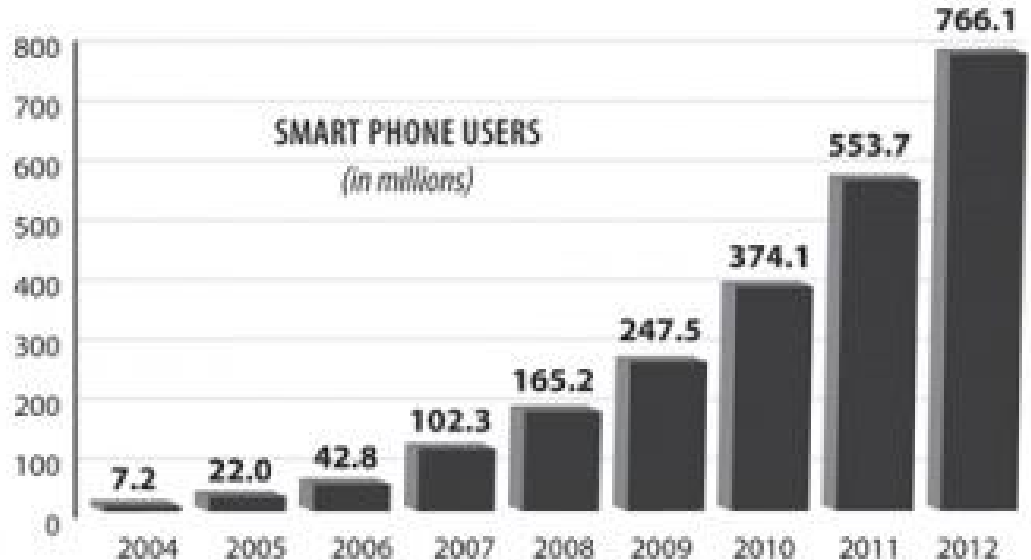
Personalized
information



Think. Feel. Act.

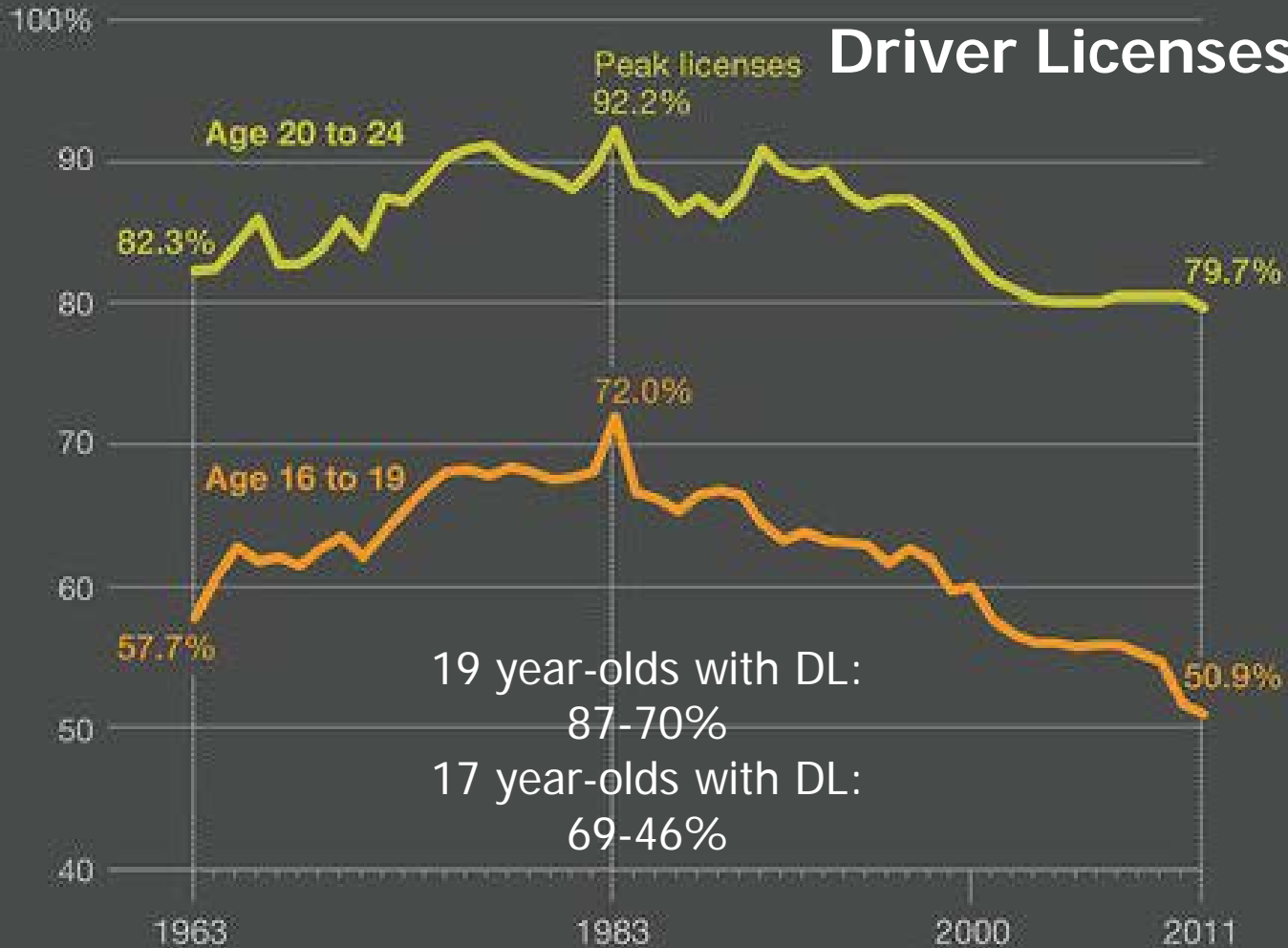
Mobile Adoption

The number of global smart phone users is expected to reach 766.1 million by 2012.



Source: ABC Capital Markets

Driver Licenses



19 year-olds with DL:

87-70%

17 year-olds with DL:

69-46%



Transportation Trends

Transportation as a Service

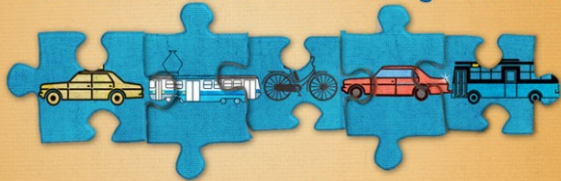


Transportation Trends

Transportation as a Service

UbiGo

Alla resor i ett flexibelt abonnemang - alltid till hands



Se hur det fungerar ▶

- Bundled service
- Hertz, electric car, carpool, transit, bike, taxi
- 20% cheaper than ownership
- Subscription service



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Transportation Trends

Cars as computing platforms

- GM will install 4G LTE on all new model cars in 2015



- 4% of US vehicles are connected to the Internet today. The number is expected to grow to 90% in 10 years

Computerworld

- Global connected vehicle market will be \$25.2B in 2014

Visiongain



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Transportation Trends

Connected Vehicles - Cellular

Cell-based connected applications are here **now!**



here



Drivewyze™

NEXTbus



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Transportation Trends

Connected Vehicles - Cellular

What's the **app** for that?



here



Drivewyze™

NEXTbus



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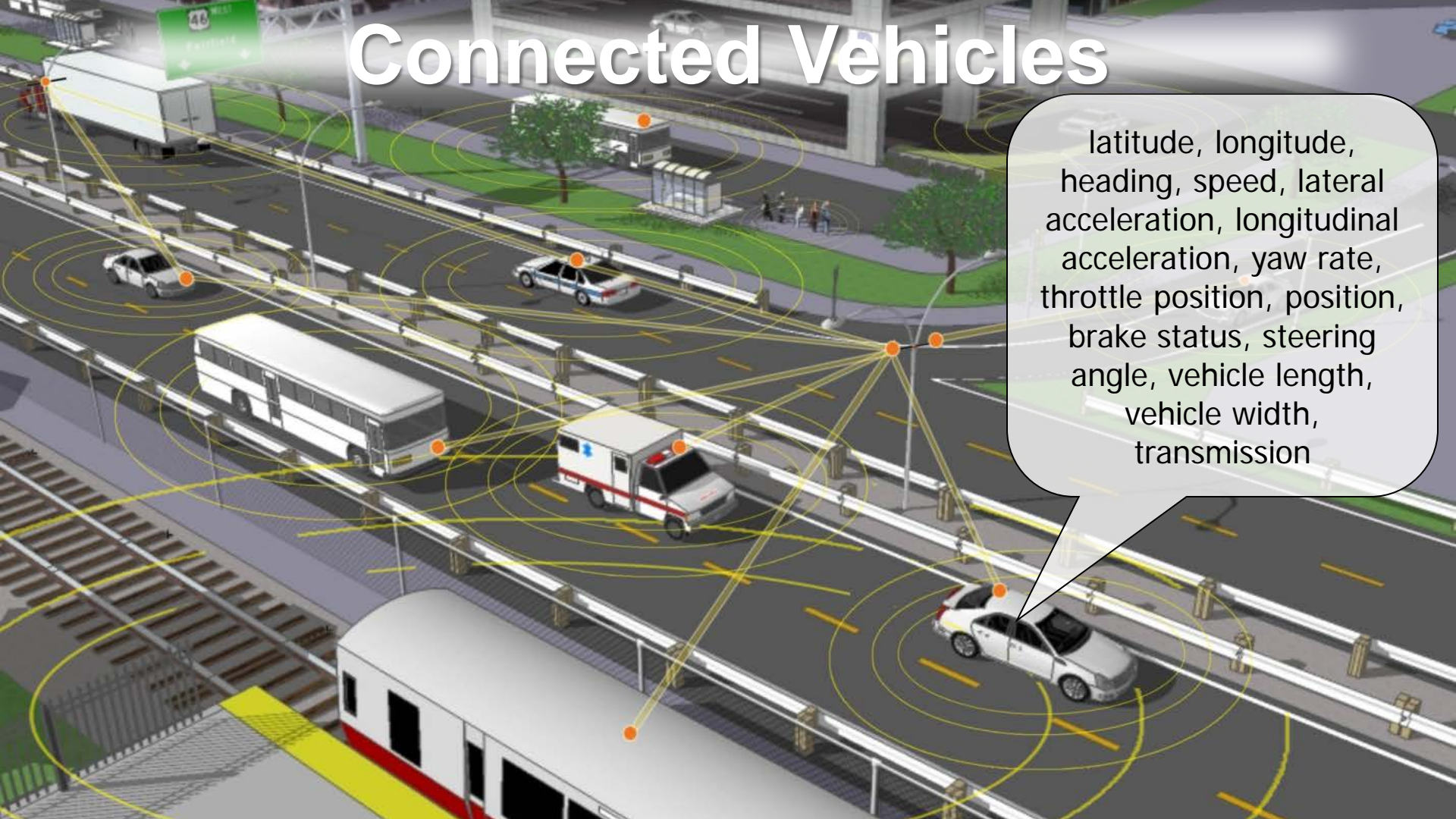
Transportation Trends

Connected Vehicles - Cellular



Think. Feel. Act.

Connected Vehicles



latitude, longitude,
heading, speed, lateral
acceleration, longitudinal
acceleration, yaw rate,
throttle position, position,
brake status, steering
angle, vehicle length,
vehicle width,
transmission

Connected Vehicles

DSRC: The Momentum

- GM
 - DSRC on 2017 Cadillac CTS
 - GM, MDOT, Umich installing V2I corridors
- Aftermarket
- Regulation



Think. Feel. Act.

Connected Vehicles

DSRC: The Risks

- Security system
- Spectrum
- Slow



Transportation Trends

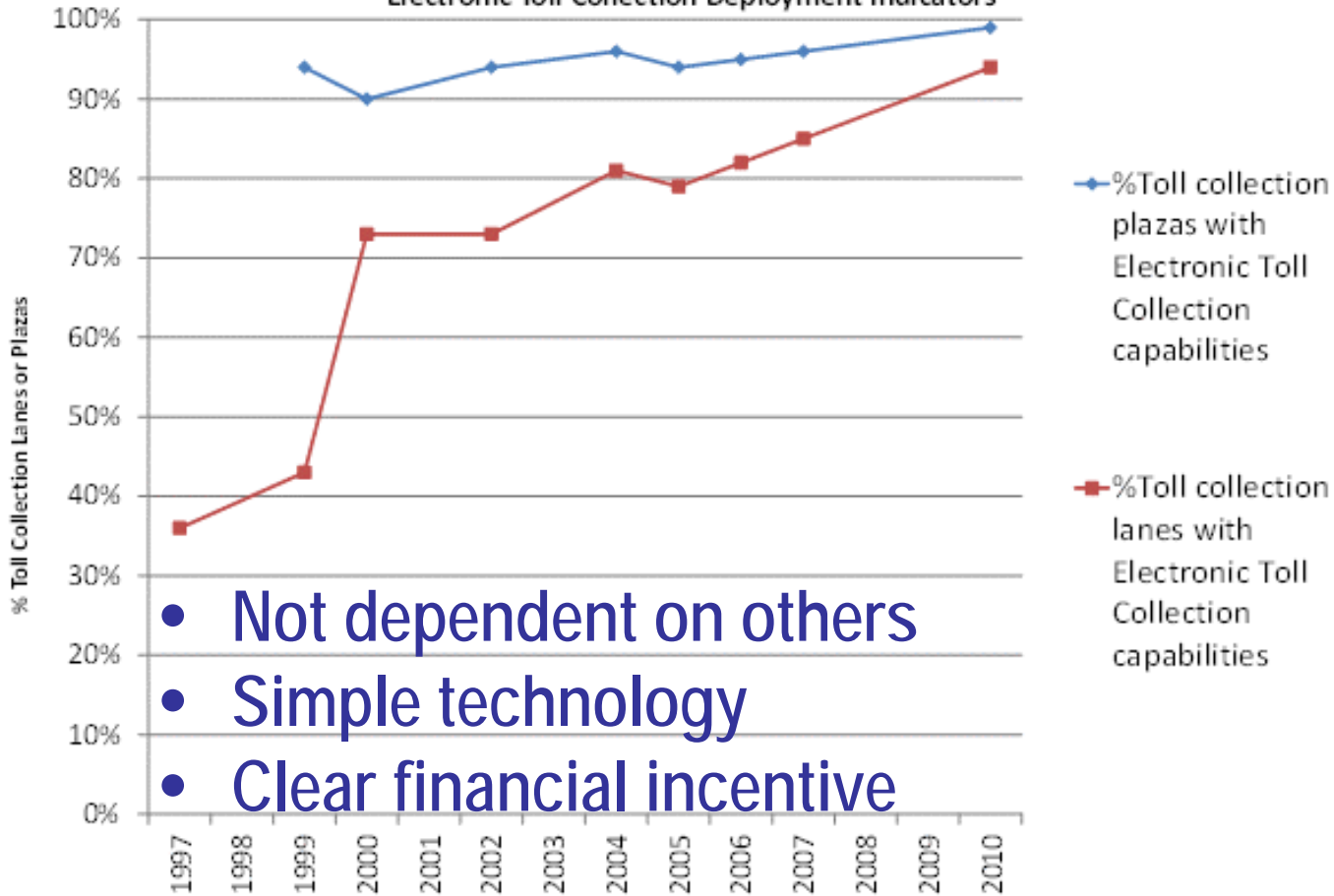
Connected Vehicles - DSRC

NHTSA Timeline:

- NHTSA decision to initiate regulatory action – Feb 2014
- ANPRM released August 2014
- More research thru 2016
- NPRM – 2016
- Final Rule – 2017? With a phase-in period

Evaluation	Regulatory Development	Fleet Penetration
2013	2014-2017	2020-2057

Electronic Toll Collection Deployment Indicators



- Not dependent on others
- Simple technology
- Clear financial incentive

Connected Vehicles

What Does it Mean to Me?

- Dependent on others
- Complex technology
- Unclear financial incentive



Connected Vehicles

What Does it Mean to Me?

- Know the data you need;
- Share your data;
- Know the data you get from DSRC



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USDOT ITS Joint Program Office

Watch for webinars,
workshops &
website

Wave 1 release in
Fall 2015



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Connected Vehicles

What Does it Mean to Me?

Investment decisions – “**Flexibility**”

- Big Investments that capture data
- VMS, HAR, 511
- Long-term agreements
- Large-scale investments





The Future of Transportation:

Be on the look out
for what's around the corner

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