

The Slow Pace of Fast Change
**The Future of Community
Transportation + Paratransit**



Garry Golden

Forward Elements Inc

www.garrygolden.com/NJCOST2016

Start

End



***Warm up
Foresight 101***



**Drivers
of Change**



***Next
Steps***

More or Less Change Ahead?

**Last
ten years**

2006 – 2016



**Next
ten years**

2017-2027





20th Century Transportation
Highway System

©



**Integrated Modes,
Autonomous Fleets
& Advanced User Culture**



**Maintenance,
Preservation
& Renewal**

ABIresearch[®]

***Global Mobility-as-a-Service Revenues to Exceed
\$1 Trillion by 2030***



FORD **SMART MOBILITY**



CONNECTIVITY



MOBILITY



AUTONOMOUS
VEHICLES



CUSTOMER
EXPERIENCE



DATA ANALYTICS

Nudging Elected Officials Towards Smarter Networks



transportation.gov/smartcity

Vision based on a Future shaped by:

- Empowered Metro Regions
- 'Accelerating' Emergence of Electric, On-demand Fleets
- Access/Equity = Economic Issue
- Incremental + Disruptive Thinking

Gap between personal sentiment and public political will

Poll: 70 percent of US residents support transit funding increase

Versus

Fighting to retain federal funds for mass transit

By [David Matthau](#) November 30, 2015 10:59 PM

Conditions for *Managing the Decline of Transportation Systems*



Study estimates

- ❑ **\$120 billion annually to fix damaged roads and highways between now + 2020**
(vs current spending \$83b)
- ❑ **Public transit need \$43 billion is needed to invest in repairs, expand existing systems, and make access more frequent and reliable.**
(vs \$17 billion is being spent currently)

Conditions for *Transformation* of Transportation Systems

Network-based Models

Software Eats World

Capturing Demographic Transitions

4 Signs that Uber Will Go Public at \$100 Billion or Greater Valuation

Reports put the company's current valuation at just north of \$50 billion. Scale and optionality and desperate rivals could help double that before IPO.

Toyota Invests \$1 Billion in AI and Robots, Will Open R&D Lab in Silicon Valley

By Erico Guizzo and Evan Ackerman
Posted 6 Nov 2015 | 5:20 GMT

Boomers will fuel self-driving cars

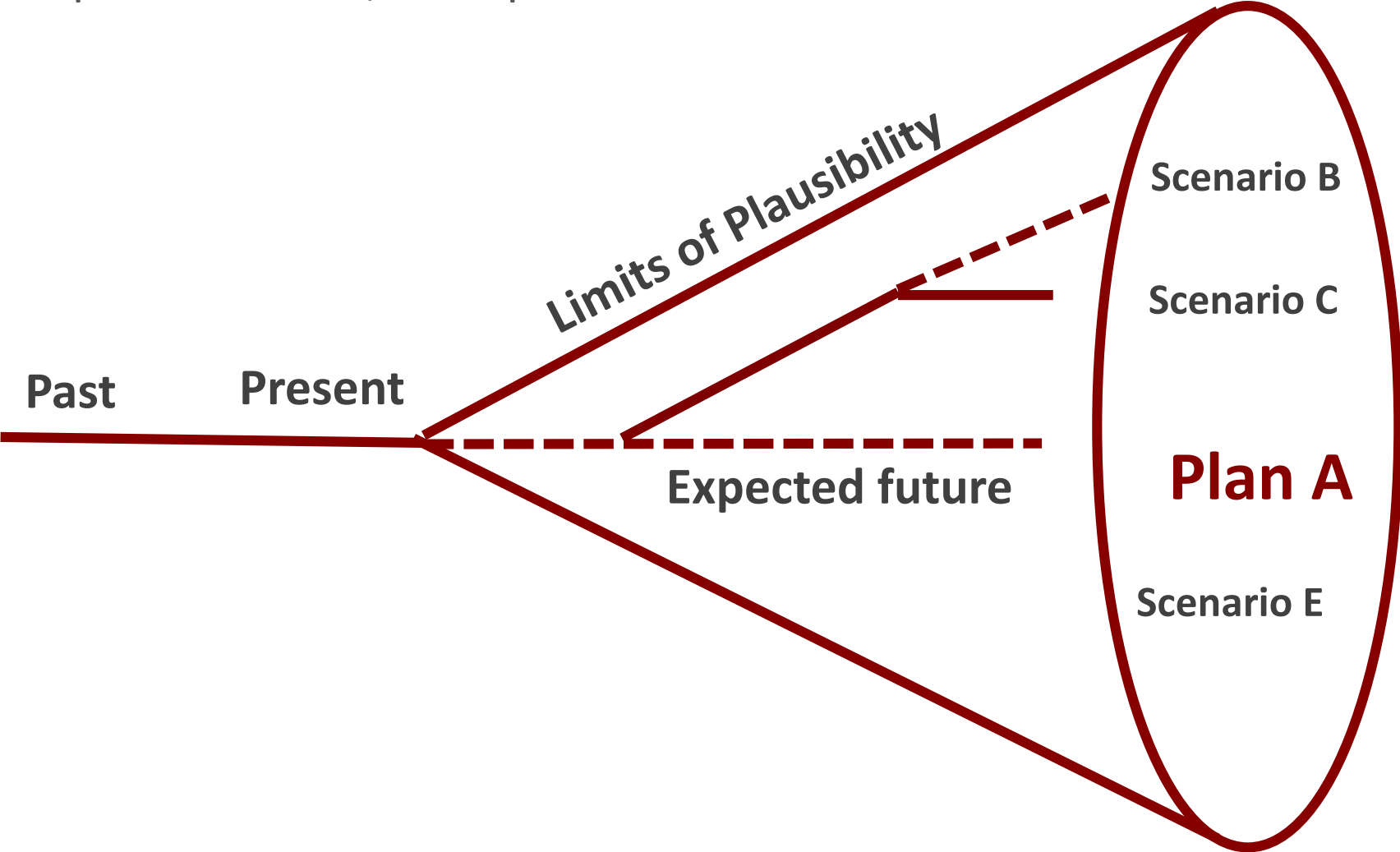
Published: Oct 15, 2015 6:00 a.m. ET


Tapping my Inner “Futurist”?



Foresight 101: Cone of Plausibility

Multiple Outcomes, Multiple Time Horizons



A close-up photograph of a person's hand holding a small, white, rectangular paper strip. The strip is held between the thumb and index finger, extending from the left side of the frame towards the right. The background is a solid, dark black. The text on the strip is printed in a clean, black, sans-serif font and is arranged in two lines. The first line reads "NJ secures long term funding" and the second line reads "for special transportation". The paper strip has a slightly wavy, torn edge on the right side.

NJ secures long term funding
for special transportation

Slides Removed

**Every day I make an effort to move toward
what I do not understand.**

- Cellist, Yo-Yo Ma

Four Futures Thinking

?



**Continued
Growth**

**Disciplined
- Constrained**



Transformed

BlackBerry.



**Decline
- Collapse**

Four Futures Thinking

NJCOST
Members

NJCOST
Members

NJCOST
Members

NJCOST
Members

**Continued
Growth**

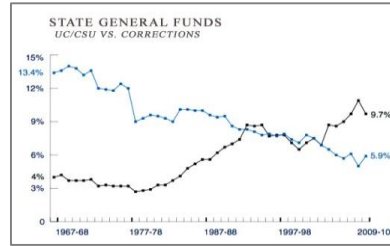
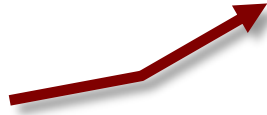
**Disciplined
- Constrained**

Transformed

**Decline
- Collapse**

Applying Foresight to Strategic Planning

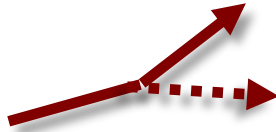
Trends
(Continuities)



Plausible
Future

Forecasts

Events
(Discontinuities)



Possible
Futures

Scenarios

Choices
(Discontinuities)



Preferred
Future

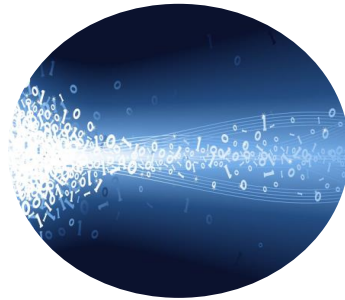
Visions

2016 – 2030

Drivers of Change



**Demographic
Transitions**



**Data-driven
Mobility Innovations**



Autonomous Age
Form Factors + Business Models



In the News

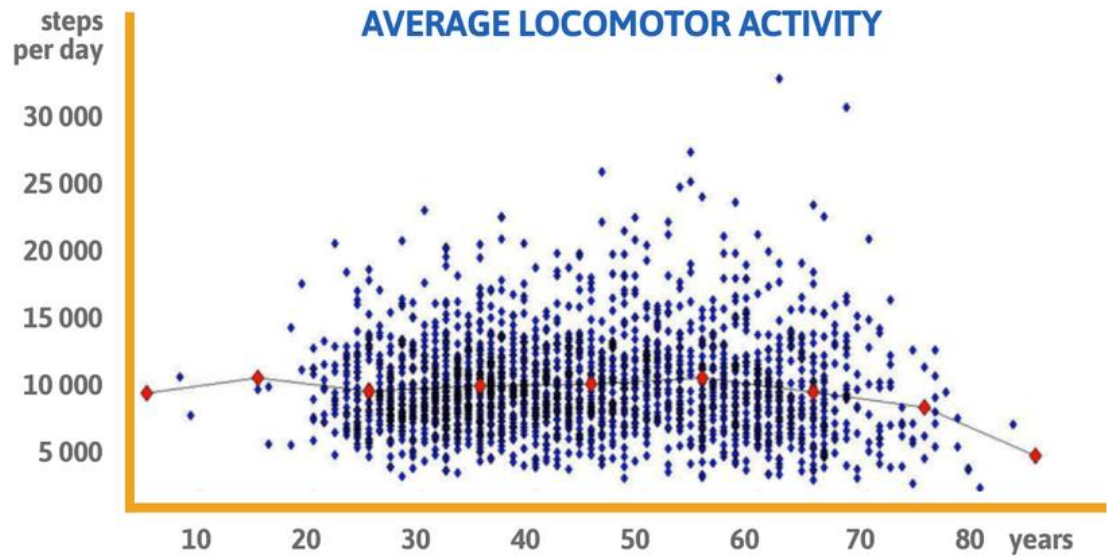
By 2018, all senior residents in the Japanese city of Nara must have wearable devices that connect to the city's secured data feed used by families and local health & service agencies.



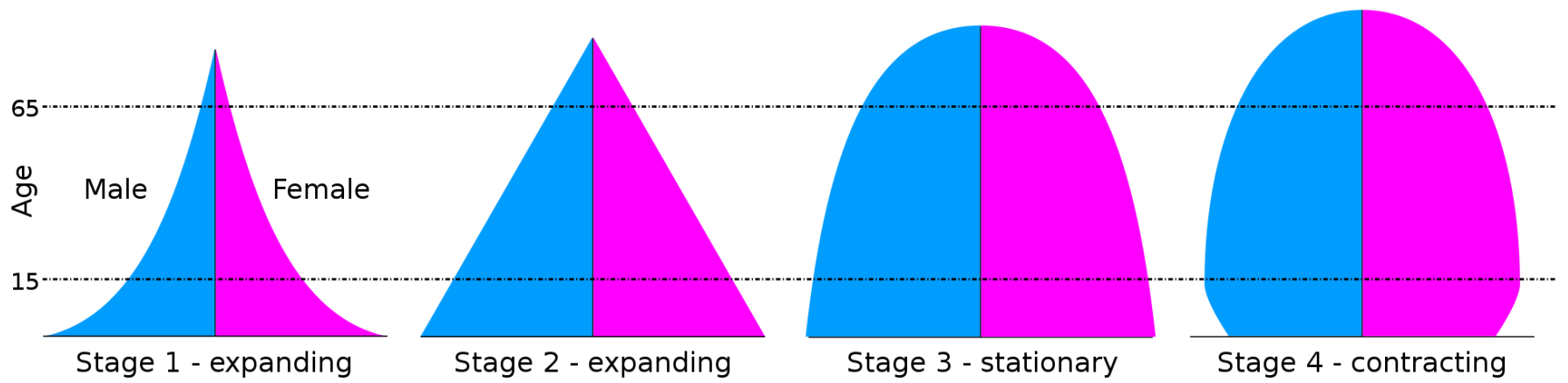
True

False

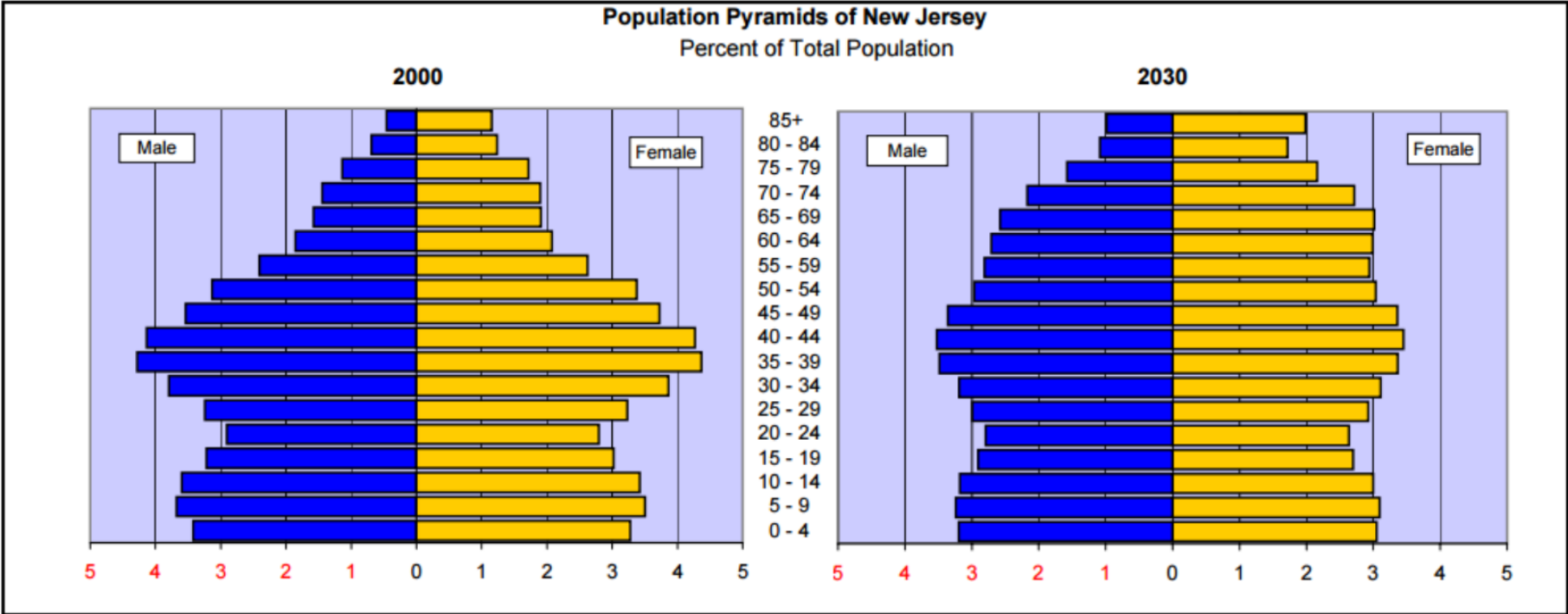
Assumption: Radical Solutions Ahead for *Ageing Populations*



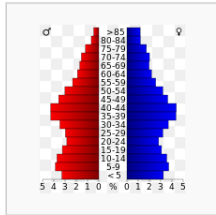
Wearables + Early Warning Signals = Interventions



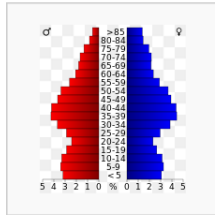
Anticipating Demands of Next Life stages + Shifting Lifestyles



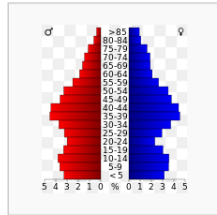
NJ County Population Pyramids



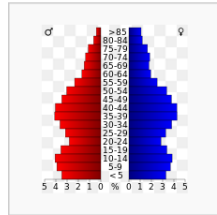
USA Atlantic County,
New Jersey age
pyramid.svg
8 KB



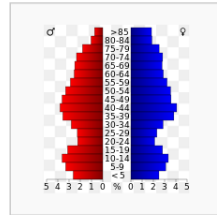
USA Bergen County,
New Jersey age
pyramid.svg
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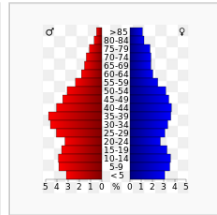
USA Burlington County,
New Jersey age
pyramid.svg
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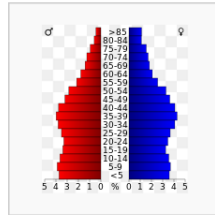
USA Camden County,
New Jersey age
pyramid.svg
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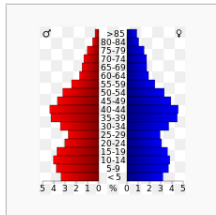
USA Cape May County,
New Jersey age
pyramid.svg
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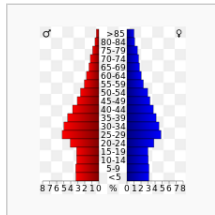
USA Cumberland
County, New Jersey age
pyramid.svg
8 KB



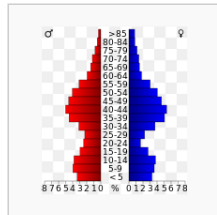
USA Essex County, New
Jersey age pyramid.svg
8 KB



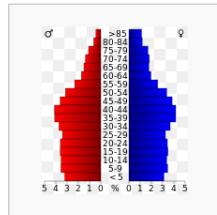
USA Gloucester County,
New Jersey age
pyramid.svg
7 KB



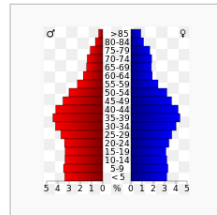
USA Hudson County,
New Jersey age
pyramid.svg
8 KB



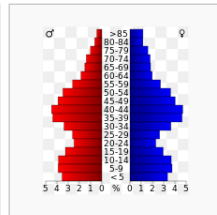
USA Hunterdon County,
New Jersey age
pyramid.svg
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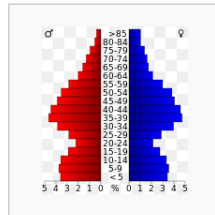
USA Mercer County,
New Jersey age
pyramid.svg
8 KB



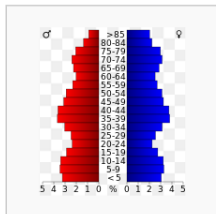
USA Middlesex County,
New Jersey age
pyramid.svg
8 KB



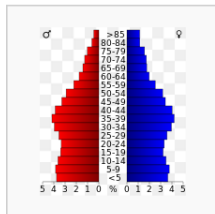
USA Monmouth County,
New Jersey age
pyramid.svg
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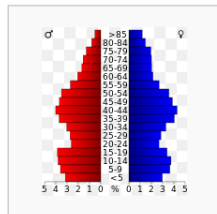
USA Morris County, New
Jersey age pyramid.svg
8 KB



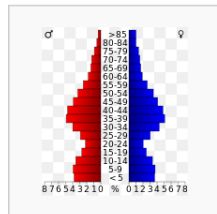
USA Ocean County,
New Jersey age
pyramid.svg



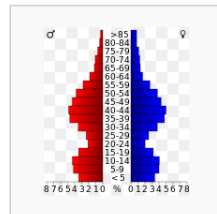
USA Passaic County,
New Jersey age
pyramid.svg



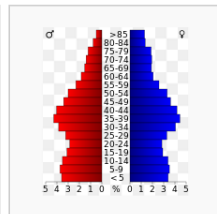
USA Salem County, New
Jersey age pyramid.svg



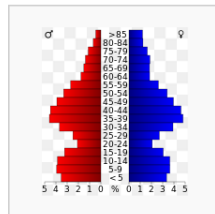
USA Somerset County,
New Jersey age
pyramid.svg



USA Sussex County,
New Jersey age
pyramid.svg



USA Union County, New
Jersey age pyramid.svg



USA Warren County,
New Jersey age
pyramid.svg

Source: https://commons.wikimedia.org/wiki/Category:Population_pyramids_of_counties_of_New_Jersey

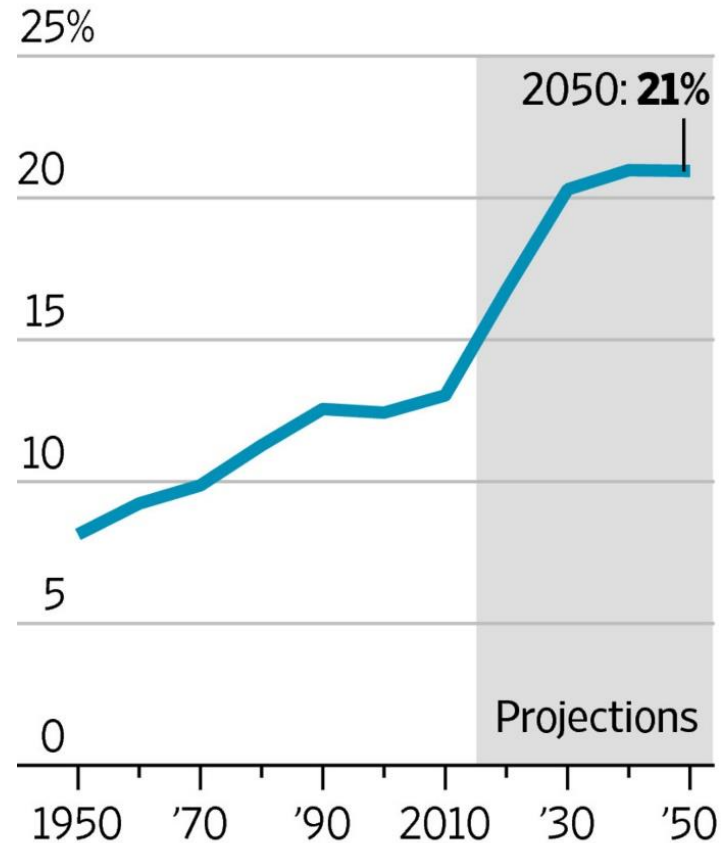


- ❑ One in every seven New Jersey adults will be age 65 or older by 2025, a jump of 39 percent from today
- ❑ The five New Jersey counties with the largest 65+ population are Bergen, Ocean, Essex, Middlesex and Monmouth. An average of one in seven persons in these counties is 65+ now.

Biggest Long-term Issue? Mobility for an Aging Society

Graying Nation

People age 65 and older are a growing percentage of the U.S. population.



Note: 1950 excludes Alaska and Hawaii

Source: Census Bureau

THE WALL STREET JOURNAL.

Aligning Transit to Emerging Issues & Continuum of Aging Lifestyles

Extending Working Years

Active Mobility

(Health-Transit Intersection)

Housing / Development

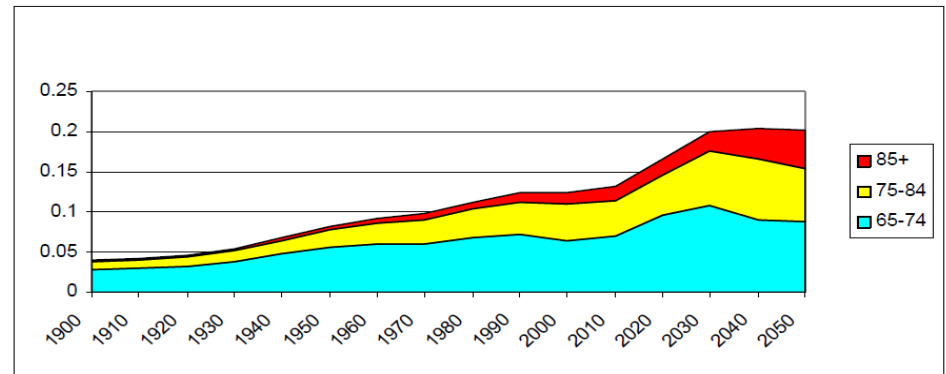
Healthcare

Social Services

Leisure-Travel

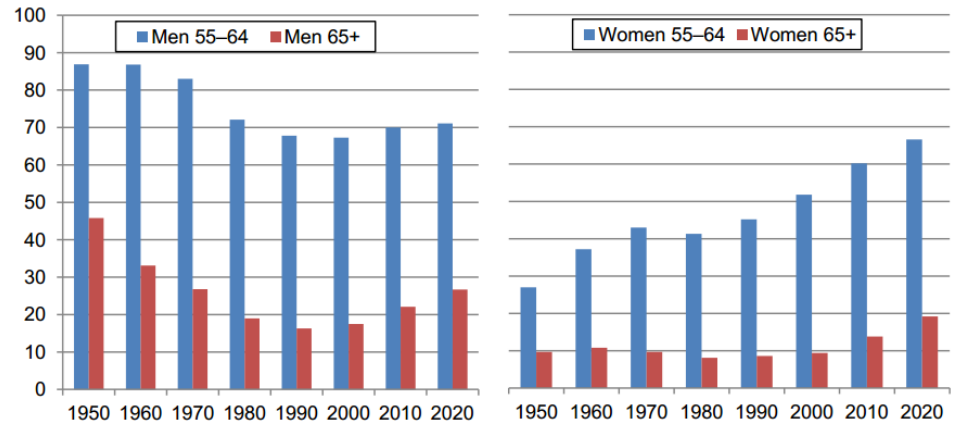
Civic Institutions

Figure 1: Percent of Total Population, Age 65 and Older, 1900 to 2050



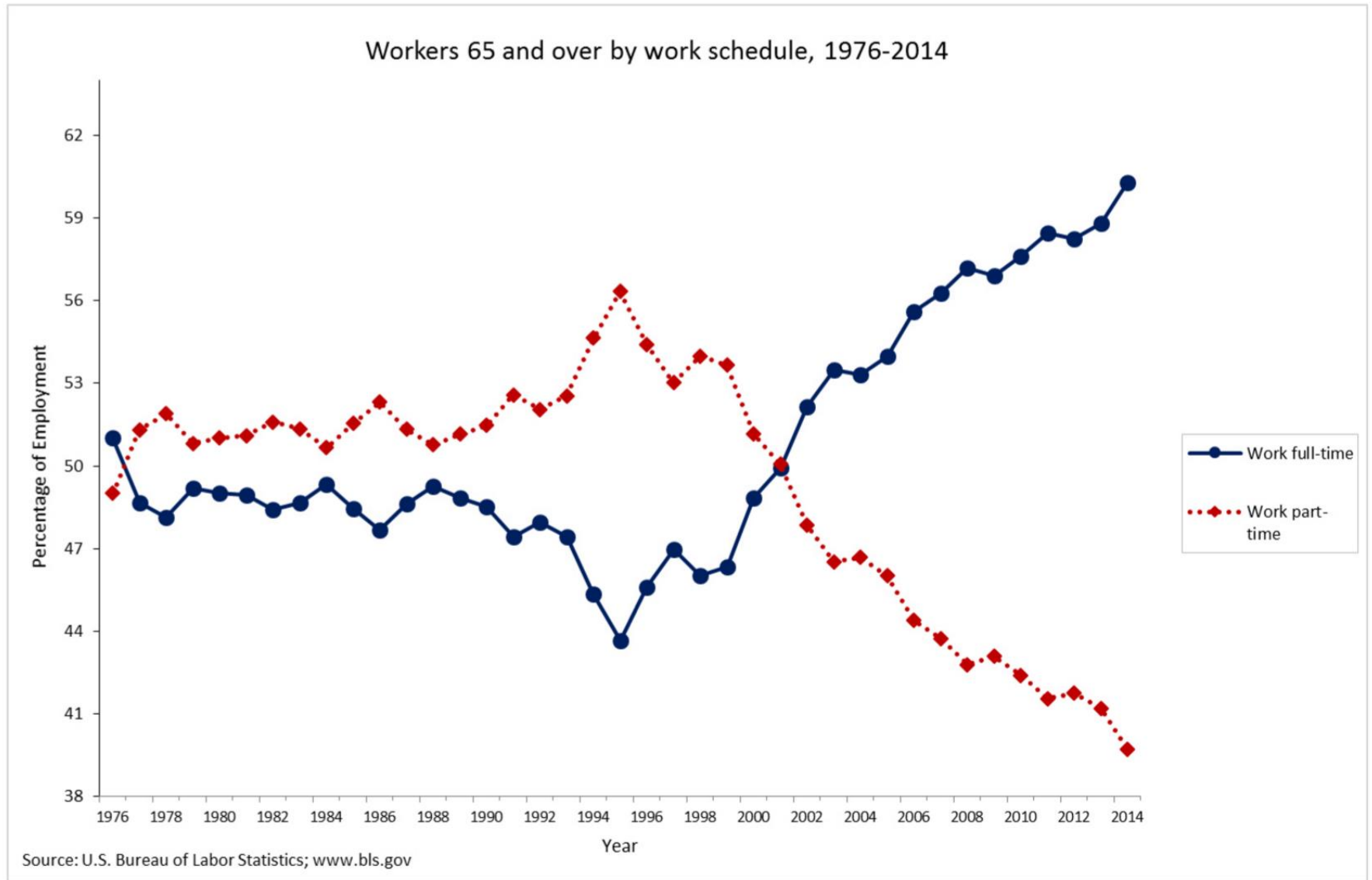
Source: U.S. Bureau of the Census

Figure 1
Labor Participation Rates by Age and Sex for People Age 55 and Older



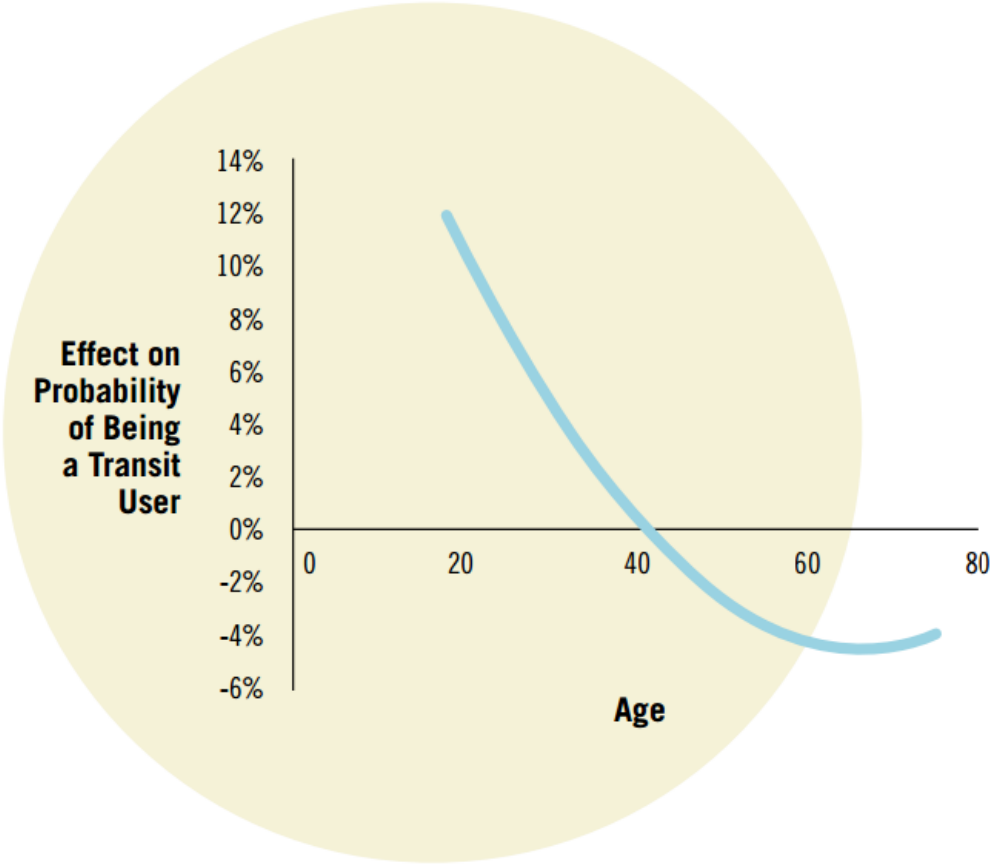
Source: Patrick Purcell, "Older Workers: Employment and Retirement Trends," Congressional Research Service, September 16, 2009; and U.S. Bureau of Labor Statistics, Employment Projections, Table 3.3: Civilian labor force participation rates by age, sex, race, and ethnicity, accessed 6/19/2012, http://data.bls.gov/cgi-bin/print.pl/emp/ep_table_303.htm.

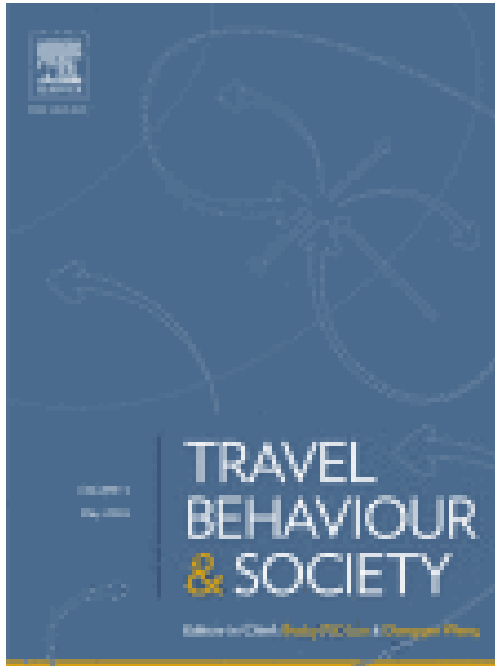
Uncertainties of Full-time, Part-time vs Gig



Uncertainties of Transit Use among Aging Populations

FIGURE 2:
AGE AND
TRANSIT USE





A nationwide survey was conducted to examine older adults' perceptions and preferences for five transportation alternatives, including:

- volunteer drivers
- shuttle buses
- senior-center-based shuttle buses
- prepaid taxi services
- specially coordinated bus/rail service to distant medical centers.



How do we transform volunteer driver experience?

- Insurance
- Training + Performance Support
- Experience (On-boarding)
- Rewards + Alt Compensation

Transit is Critical Piece for 'Aging in Place' + 'Active Aging'

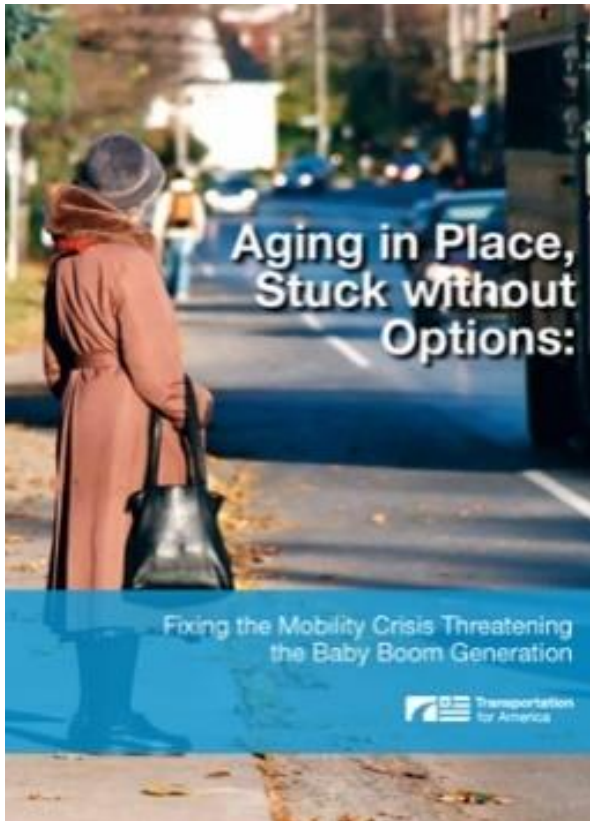
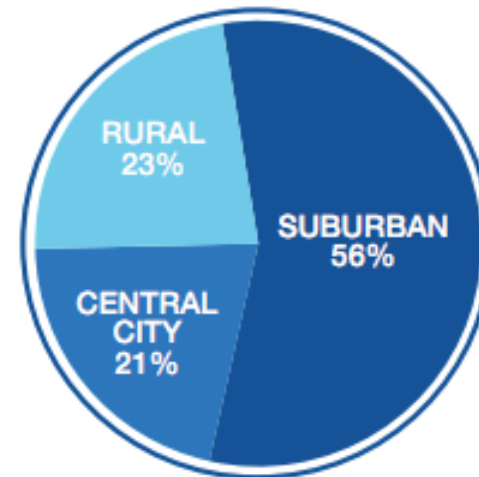


Figure 2: The Geographic Distribution of Americans Age 65 and Older²⁰



Transit Access for Seniors Age 65-79 in 2015

Service Design Spectrum for 'Aging in Place'

Time to Re-imagine

Para-transit and Senior Connection Services



Aging in Place

- Trip Reduction / Avoidance / Coordination
- Communication Connections within the Home
- Partnerships + Connectivity within Institutions
- Scheduling Automation
- Seamless Video / Voice Support
- Pricing Strategies
- Outsourcing or Broker Models

15.5 million Americans 65 and older will live in communities where public transportation service is poor or non-existent.

Service Design Spectrum for 'Aging in Place'

What are future-oriented ways of connected inside the home?

Partner with new 'Natural language' Assistant home hubs



INTRODUCING
amazon echo

Always ready, connected,
and fast. **Just ask.**

Service (Experience) Design for 'Active Aging'

How Does Transit Integrate into Active Mobility Culture?



Aging in Place, Active Aging + Beyond

- Opportunities
- Risks
- Imagine Innovative Partnerships
+ Service Design Concepts



Our To Do List:

- Curate Resources
- Frame Issues
- Engage Leadership
- Roadmaps
- _____
- _____

iTNAmerica[®]
Dignified transportation for seniors

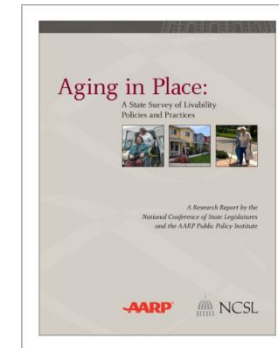
MetLife Mature Market
Institute

 **Silvers Summit** *Technology For Life* **LeadingAge**[™]

 **Aging In Place Technology Watch**
Industry Trends, Research & Analysis

ASA

**American
Society
on Aging**



2016 – 2030

Drivers of Change



Demographic
Transitions



**Data-driven
Mobility Innovations**



Autonomous Age
Form Factors + Business Models



Data-driven Mobility Innovations

- System Experience**
- Talent Performance Support**

System: Data for Dynamic Infrastructure Coordination

waze CONNECTED CITIZENS

TRAFFIC VIEW

HELP CENTER

Login

Connecting Citizens and Governments through Data

Join the Connected Citizens
free data exchange
program from Waze!



APPLY NOW

Exchange data with Waze to:

Know what's happening on your roads

Partners receive real-time incident information faster than other reporting methods

Increase the efficiency of incident response

Waze accurately pinpoints and verifies where incidents occur, creating faster response and clearing times

Reduce traffic congestion in your area

Reroute Waze users around road closures and incidents in real time

Make data-driven infrastructure decisions

Gain insights into locations with frequent congestion or hazards to drive smarter urban planning



System: Focus on Aggregate Global Mobility Data



A COMMUNITY-EDITED DATA SERVICE    

AGGREGATING    TRANSIT NETWORKS

ACROSS METROPOLITAN       AND RURAL

AREAS AROUND THE WORLD.        

System: Silicon Valley Dipping its Toes

Alphabet

SIDE WALK LABS



FLOW | USDOT

System: Data DNA of Transportation Network Companies

UBER



“UBER GAVE ME MY WHEELS BACK.” – JUNE, 86 YEAR-OLD GRANDMOTHER AND UBER RIDER

Design for Behavior Change

Why Software is Eating the World...

THE WALL STREET JOURNAL.

By **MARC ANDREESSEN**

August 20, 2011

Social Norms for the Anonymous-Access Web

1993




“On the Internet, nobody knows you’re a dog.”

“On Facebook, 273 people know I’m a dog.
The rest can only see my limited profile.”

Social Norms & the Social Web

2008





Everyone knows I'm working on some personal growth issues

Assumption:
The web is becoming a platform for managing outcomes & personal behavior change.

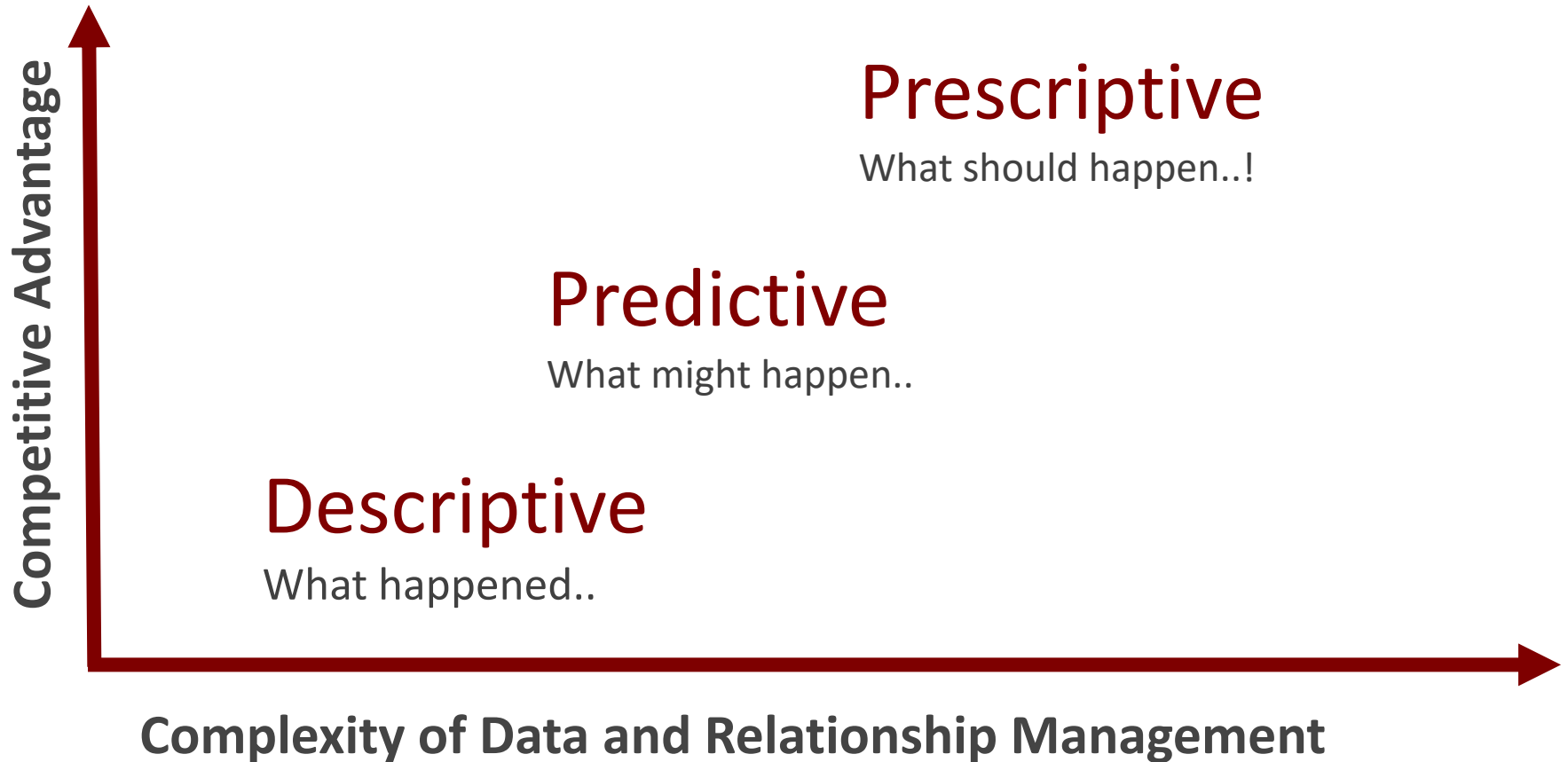
Andrea Arden

- *Workshopping*—including storylines and creating an effective agenda
- *Facilitation*—leading groups, one-on-one, and more
- *Dog Training 101*—inspiring to learn all that they have on a book and more
- *Behavioral Psychology*—including personal learning, assessment, planning, and more

BARRON'S

Data-driven 'Advanced User' Experiences

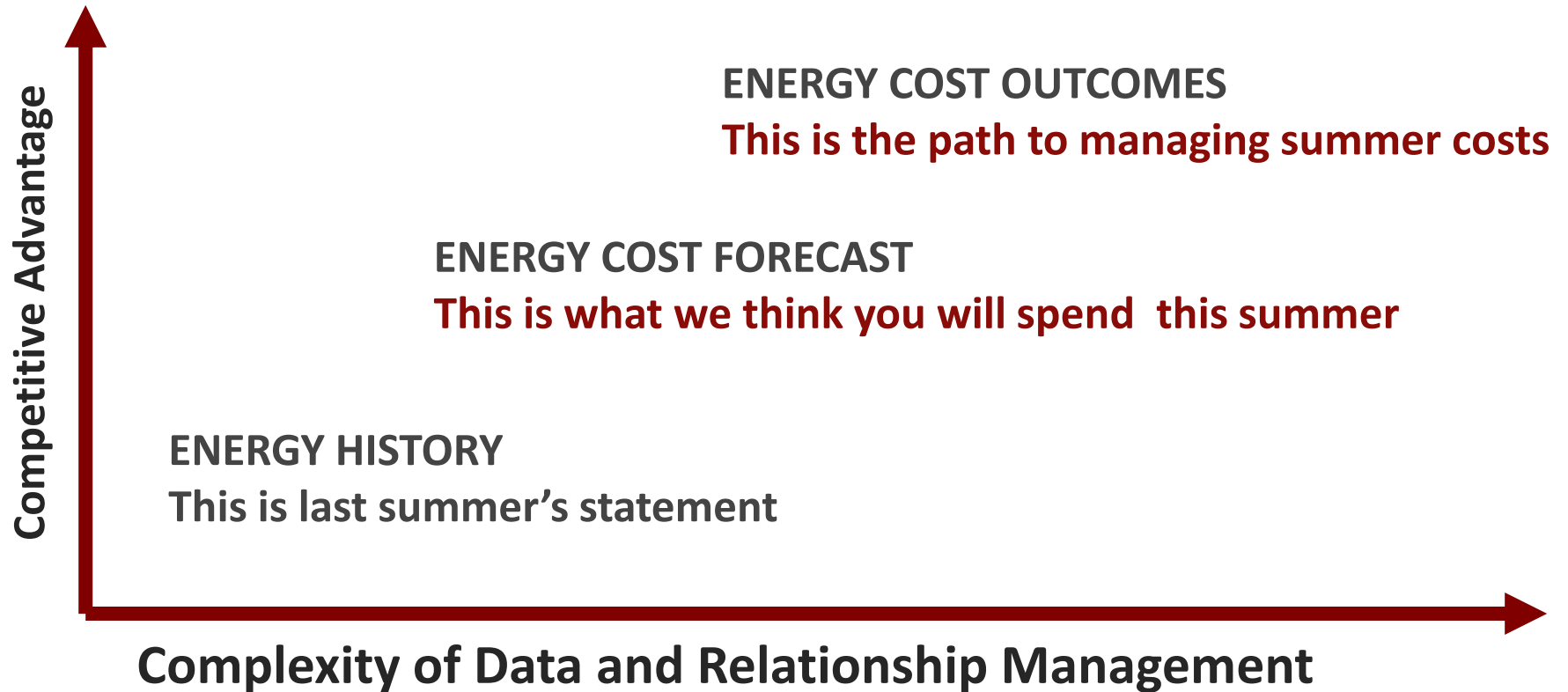
Value Capture in Behavior Change to Guide Outcomes



Guided Financial Experiences



Guided Utilities Experiences



Guided Transportation Experiences



What is our data strategy for system level change?



Prepare for Next Wave of Data

How do we incentivize sharing and coordination?

Spectrum of Outcomes for Community

(e.g. Access to Medical; Social connections; Equity)

Exploring Uncertainties

How do we address privacy concerns and build trust for private and public sector prescriptive mobility services?

Who leads these 'guided' era solutions?

GM? Google? Stat? City? Uber? Local businesses?



Data-driven Mobility Innovations

System Experience

Talent + Performance Support

Creepy vs Compelling Line of Talent + Performance Analytics



What's the culture strategy of data driven workplace?

Training Culture

- Put *inside* person
- Instructor-focused
- Event-based (Class)
- Centralized (Formal)
- Linear (Sequential)
- Delivery (Output)

Learning + Performance Support

- *Grows out* of personal effort
- Learner-focused
- Continual / On-demand (*Chunks*)
- Decentralized (Hybrid)
- Non-linear (Contextual)
- Results (Outcomes/Impact)

xAPI Performance Analytics driving Engagement



“I did this...”

Statements

- Liz ***read*** an article on aging populations
- Liz ***watched*** Youtube video on Aging Boomers
- Liz ***spoke with*** Active Aging Institute
- Liz ***attended*** and MIT workshop on Aging in Place
- Liz ***completed*** a MOOC class on Universal Design
- Liz ***wore*** an ‘aging suit’ at MIT Aging Lab
- Liz ***drafted*** new aging in place product line
- Liz ***presented*** to John on business model
- Liz ***wrote a blog post*** on solutions for aging populations
- Liz ***launched*** new product line
- Liz ***promoted*** head of Aging Solutions

Situational Awareness View of Managers



Experience Streams

<Actor, Verb, Object>

"I did this"



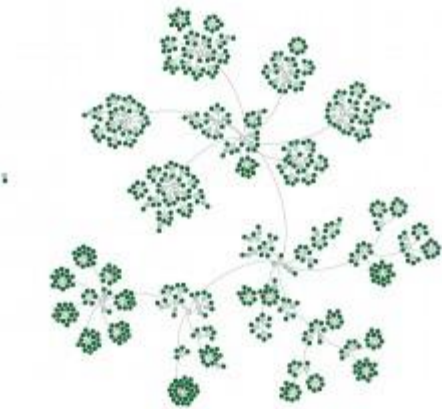
Learning Record Store (LRS)

- Individual Control over Access to Learning Data

**Interventions: Self-directed Learning,
Performance Support, Training**

xAPI Goes Mainstream by 2020

**Imagine workplace where
people control their own
*Learning (Performance) Graph***



Learning Record Store (LRS)

- Individual Control over Access to Learning Data
- Most Valued Asset
- Starting point for Training + Performance Support
- Forget about 'the resume'

What you can do with xAPI...



Don't hate on Garry

Creepy and Compelling ...

Managers + Employees

- Not perfect but better than today
- Anticipate team capacity for addressing situational opportunities or challenges
- Reveal opportunities to provide Performance Support
- Connections between training + performance support to outcomes

Data-driven Innovations Behavior Change, Outcomes + Making Connection

- Opportunities
- Risks
- Innovative Partnerships
+ Service Design

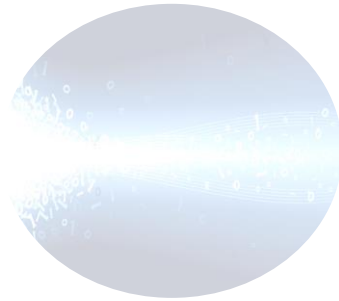


2016 – 2030

Drivers of Change



Demographic
Transitions



Data-driven
Mobility Innovations



Autonomous Age

Assumption: For Better or Worse, It's Techno-optimist Agenda

 Christopher Mims Retweeted



Thor T. Mathison @Thormathison · 1h

Future-

"Wait, people used to control the car?"

"Yup"

"Wasn't that dangerous?"

"Oh, yeah, people died all the time."

Christopher Mims @mims

Drowsy Driving Kills 6,400 Americans Annually
scientificamerican.com/podcast/episod...



Comma.ai will ship a \$999 autonomous driving add-on by the end of this year



Grow with Flow
From Driver to Captain



Assumption: Commercial Drivers will be First

TECHNOLOGY NEWS | Thu Aug 18, 2016 7:31pm EDT

Uber buys self-driving truck startup Otto; teams with Volvo

Self-driving start-up Otto to test with truckers by year's end

 **By Alexandria Sage** August 4, 2016



An Autonomous trucking start-up Otto vehicle is shown during an announcing event in Concord, California, U.S. on August 4, 2016. REUTERS/Alexandria Sage

Assumption: TNCs will become Autonomous

HOW IT WORKS.

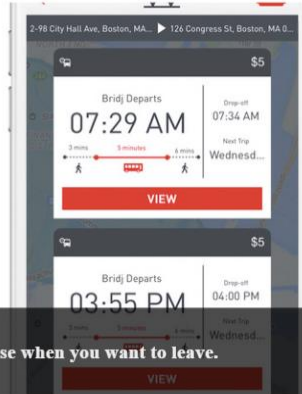
Drop two pins, select the trip that meets your needs, purchase in-app and walk to your tailored Bridj pick-up location. We optimize pick-ups, drop-offs, and routing based on demand meaning a 40-60% more efficient trip (on average) than traditional transit at a \$2 to \$6 price point.

AU
IN

Using
move
mass t
cost, a
goods.



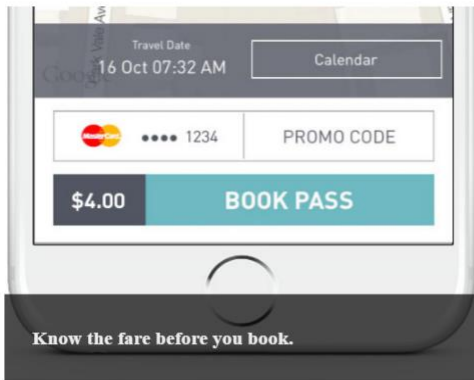
Tell us where you want to go.



Choose when you want to leave.



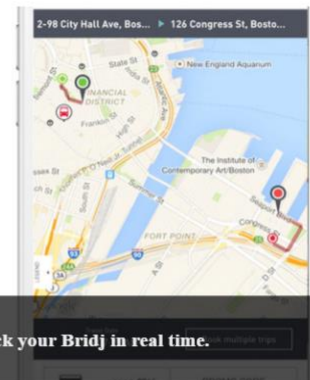
Book days or minutes in advance.



Know the fare before you book.



Walk to your pick-up spot.



Track your Bridj in real time.



On-Demand + Autonomous Meets *Last Mile*




LOCAL MOTORS

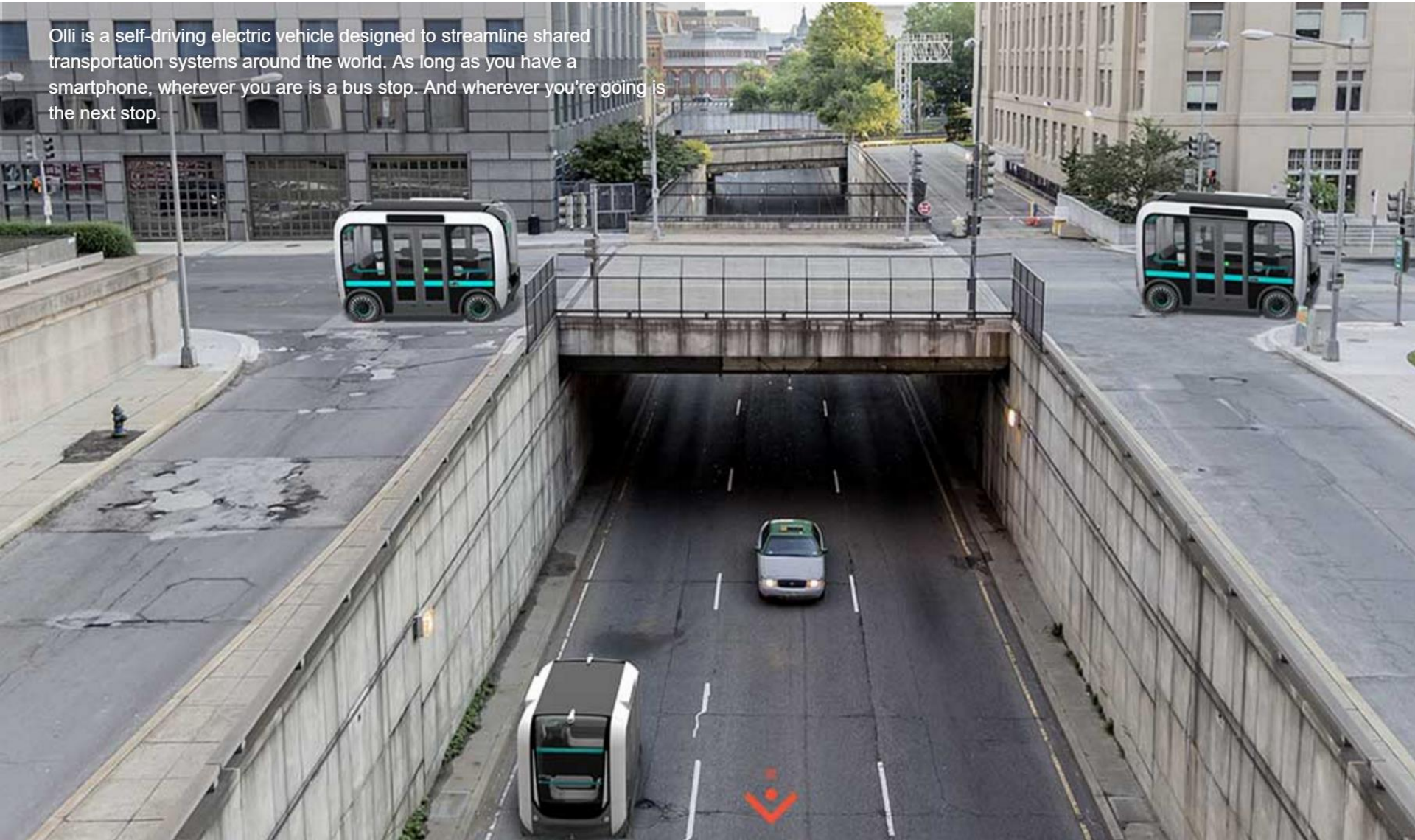
Transforming the Cost Structure of Manufacturing

Local Motors Olli: IBM Watson Powered *Cognitive Vehicle*



Will history applaud Olli over Tesla 3?

Olli is a self-driving electric vehicle designed to streamline shared transportation systems around the world. As long as you have a smartphone, wherever you are is a bus stop. And wherever you're going is the next stop.



How might autonomous vehicles transform the broader transit sector and influence community transit services?



Slides Removed

Urgency to Get Culture Aligned Around Anticipation

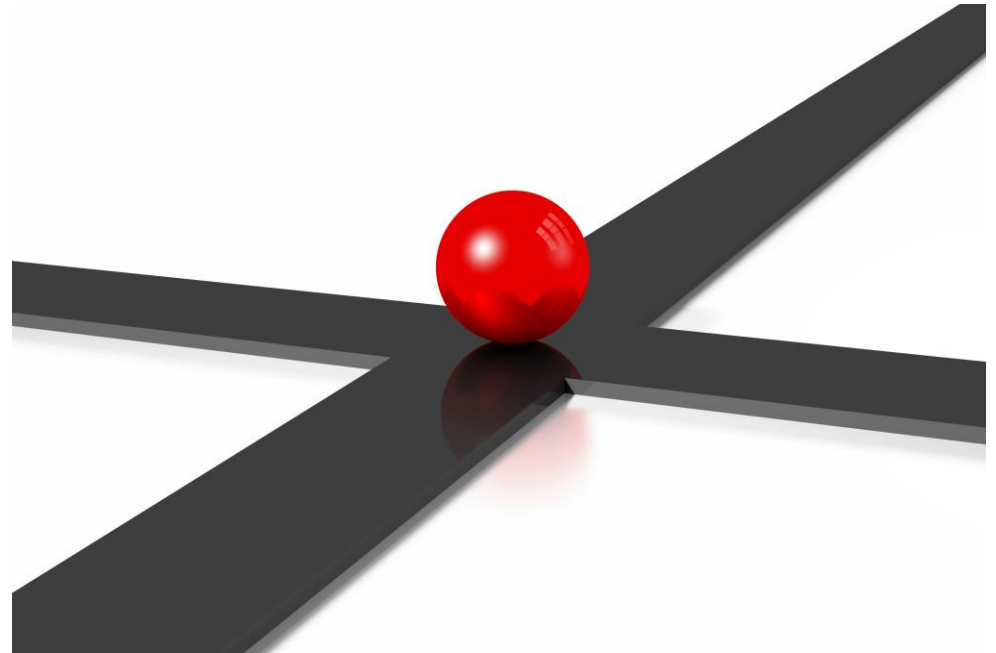
On the Plateau 'Managing the Decline'

- Incumbent mindset
- Incremental Improvement
- Fear, Uncertainty,
Doubt & Denial

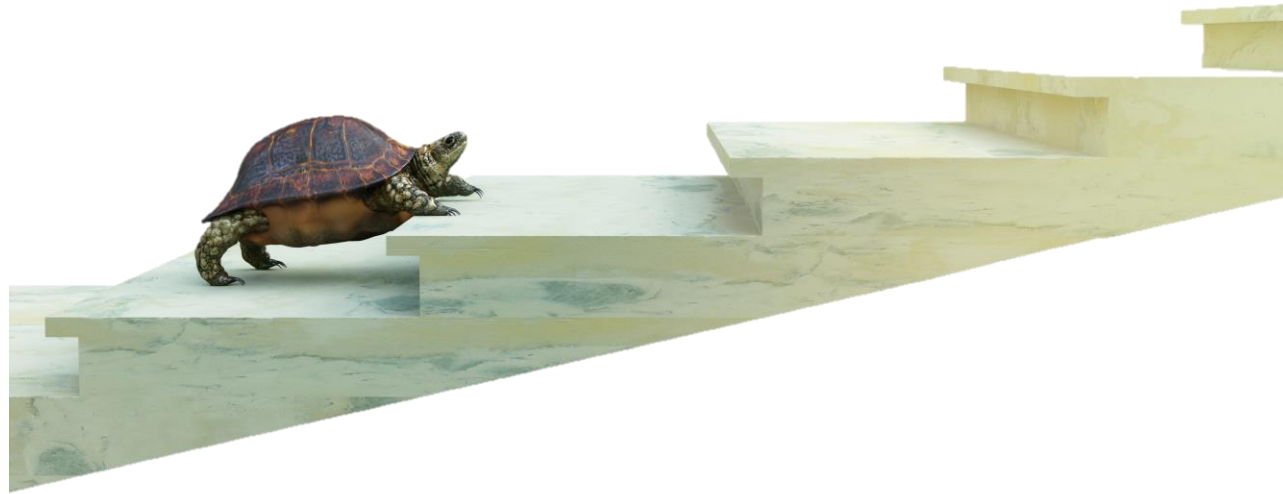
Walking up Hill Enabling New Era

- Entrepreneurial mindset
- *Prototyping*
Transformative Change
- *Failing Forward*

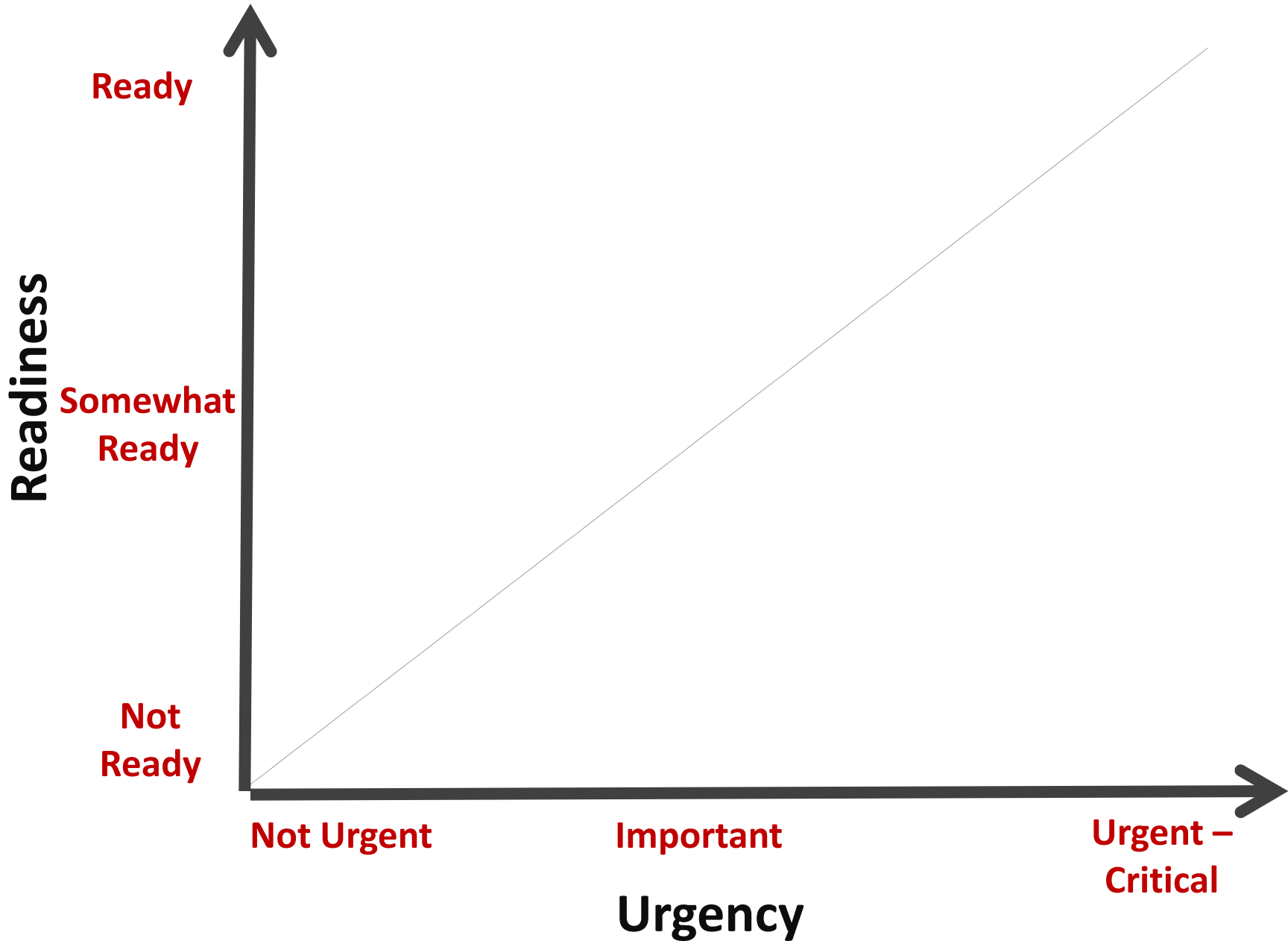
**Innovations at
Intersections of Change**



**Big Bets,
Small Steps**



Survey Leadership on Emerging Trends



Most uncomfortable = _____

Most Inspired = _____

Biggest Opportunity = _____

Biggest Risk = _____



Who do we need *to get on the bus?*



Tell Stories + Take Mental Leaps (Part 1): Describe the Four Futures for Special Transportation

?

**Continued
Growth**

?

**Disciplined
- Constrained**

?

Transformed

?

**Decline
- Collapse**

In 2026....Transformed Scenario: **NAME**

Conditions for Transformed Scenario:

↔ **Economy + Business Climate – (Capture Sentiment)**

One sentence description using (-/+)

News Headline: _____

↓ **Politics – (Capture Sentiment)**

One sentence description using (-/+)

News Headline: _____

↑ **Social Norms – (Capture Sentiment)**

One sentence description using (-/+)

News Headline: _____

↑ **Organizational Culture – (Capture Sentiment)**

One sentence description using (-/+)

News Headline: _____

↔ **Human Resources – (Capture Sentiment)**

One sentence description using (-/+)

News Headline: _____

Tell Stories + Take Mental Leaps (Part 2): Trend Card based Scenarios

Session: Trend Card Poker!

Write a 'day in the life' story about the future and how it might change community transit and your organization

Designing for Behavior Change

In 2016 wearable device shipments are expected to surpass \$140 million and \$30 billion in revenue.

- Companies are integrating the design of user experiences, real-time analytics and the psychology of behavior change to influence or shape behavior to guide people to desired outcomes with their products and services.
- The Fog Behavior Model (FBM) highlights three elements to affect behavior: Motivation, Ability, and Trigger. Behavior design strategies include reduction, tunneling, tailoring, suggestions, self-monitoring, surveillance, and repetitive conditioning.
- Buzzwords to Watch: Gamification; Quantified Self Movement; Neuromarketing; Persuasive Technology; Wearables

Mindfulness + Mental Health

- Mindfulness is a practice aimed at developing a sense of non-judgemental focus and active awareness to the present. The practice has shown scientifically variable benefits to health, productivity and collaboration.
- World Health Organization estimates stress costs American businesses \$300 billion annually.
- International business school INSEAD and Singapore Management University found employees who practice mindfulness have less stress, are more open to feedback and are better at making decisions, seeing ethical challenges, and generating insights.
- Mindfulness programs have been implemented at Bank of America, Google, General Mills, Intel and Keurig Green Mountain.

Millennials Grow Up

By 2020, the global population of Millennials (Gen Y) is expected to reach 2.56 billion.

- Millennials are typically defined as those born after 1980 and before the year 2000. They will soon become the majority adult population in the US.
- This cohort makes up 25% of the global population; 37% of Millennials will live in India and China.
- Millennials will gain control over consumer and discretionary spending as they shift into household formation years (starting families, buying homes, etc.).
- A Visa survey estimates Millennials will earn more than plateauing Baby Boomer workforce.

Opportunity Examples:

Design for Incentives, Rewards + Desired Outcomes

- Bayer's DigiLet is a glucose monitoring program linked to a mobile gaming platform Nintendo DS. Played correctly with diabetes are rewarded for testing blood levels.
- John Hancock policyholders who wear Fitbit devices get discounts of up to 15% on their life insurance policy.
- Progressive's Snapshot and State Farm's In-Drive both use in-vehicle devices to track and transmit information on driving habits in return for lower insurance rates.
- KFC repackaged its 'To Go' food containers to fit into automobile cupholders to reduce pain point of drive experience.
- Moven and Simple allow bank users to set saving goals and then receive real-time spending recommendations to guide people to desired savings outcomes.
- HelloWallet is an application and program design that help employees track behavior and build financial habits to secure financial wellness.
- Utilities partner with Ambient Devices to deliver real-time energy use feedback on objects that glow green, red or yellow to indicate real-time energy use against monthly goals.

Opportunity Examples:

Show Connections to Decision making

- INSEAD and The Wharton School of the University of Pennsylvania have demonstrated that mindful employees to better avoid negative decisions with 'sunk costs' where organizations could lose money at worsening problems.

Quantify and Show Bottom Line Connections

- Aetna estimates savings of \$3,000 per year per employee who took mindfulness training.
- Progressive's Snapshot and State Farm's In-Drive both use in-vehicle devices to track and transmit information on driving habits in return for lower insurance rates.
- KFC repackaged its 'To Go' food containers to fit into automobile cupholders to reduce pain point of drive experience.

The Benefits of Focusing and Situations:

- Mindfulness practice can help reduce employee distraction and a culture of short attention spans.
- Keurig Green Mountain has developed a mindfulness program for warehouse distribution to reduce in workplace injuries.

Opportunity Examples:

Aligning with Values + Personal Growth:

- Millennials connect with brands that support social values and social responsibility.
- A PwC survey found 57% of Millennials agreed: "access to 'on-demand' economy, using services that allow individuals to borrow or reuse things like cars (Uber), rooms (Airbnb) or clothes (ThreadUp; RentRunway);"
- Millennials seek out development opportunities. A Deloitte survey found 28% of Millennials feel their current organization is making full use of their skills. More than 53% aspire to become the leader or senior most executive within their current organization.

Connecting via Big & Small Social Media:

- Millennials will continue to use social media to join the workforce, and start families of their own. The success of the 'Old Spice Guy' campaign was largely because of a social media reinforcement strategy that allowed the Millennial audience to push the brand message among friends.
- Many brands see the upside of niche social sites (e.g. 'Mommyblogs', Beauty Vloggers) that appear more peer-based and authentic to Millennial audiences.

Fictional Future Events:

- New Laws + Regulations
- New Competitors
- New Internal Rules
- New Leadership
- Disruptive Wildcards

Direction A
Scenario Name

+10

+5

+1

Today

+1

+5

+10



Learn More:

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garrygolden@gmail.com

Two Rs



Additional Resource Slides

Foresight Methodologies / Tools

Qualitative

Scanning

Scenarios

Simulations & Games

Backcasting

Genius Forecasting

Morphological Analysis

Role-playing

Ambient Futures

Casual Layered Analysis

Futures Wheel

Relevance Tree

Appreciative Inquiry

Qual-Quan Hybrid

Delphi Survey

Cross Impact Analysis

Survey / Focus Group

Agent Modeling

CA Systems Modeling

Decision Modeling

Text Mining

S-Curve Analysis

Field Anomaly Relaxation
(FAR)

Roadmapping

Fisher-Pry Analysis

Quantitative

Trend Extrapolation

Benchmarking

Patent Analysis

Systems Dynamics

Probability Forecasting

Monte Carlo Models

Era Analysis

This exercise is designed to help your team identify the conditions and sources of change from past to present eras of business - and to then explore potential market transitions in the future. With your team, jot down a few key bullet points about different eras of your organization and industry. After you define your *era time horizons*, begin with the Vision/Mission category on the left. Then work across from 'Past' to 'Present' to 'Future' era. Continue working down with each category - working left to right. Lastly, spend some time analyzing the Disruptive Element boxes carefully to brainstorm characteristics of the future era your company might enter over the next few years.

	Past	Current	Future
Vision / Mission			
The vision and mission guiding your company / industry sector; List major assumptions for era			
Market Dynamics			
Regulatory and business dynamics for industry; Factors for competition; What primary conditions shaped the marketplace?			
Customer Offerings			
Product and service portfolio; Life stages / Lifestyles; How did customer needs change? What was considered innovative?			
Partnerships			
Who were you partners? (Successes? Failures?) What were some primary roles across the value chain?			
Minor Eras / Transitions			
Were there small but significant changes within the company? Industry? (Internal/External)			
Disruptive Elements			
Disruptive elements that led to the next major era What are the 'limits to growth' within this era?			

Foresight as *Front-End* of Innovation and Strategy



Forecast-based Innovation:

- Confidence in assumptions
- *Stable marketplace/culture*
- *Focus on 'Prediction'*
(*What should happen*)



Scenario-based Innovation:

- Unsure of right assumptions
- Markets shaped by uncertainty
- Focus on 'Anticipation' ('could happen')
- Manage uncertainty across a range of plausible outcomes
- Focus on continual monitoring of change