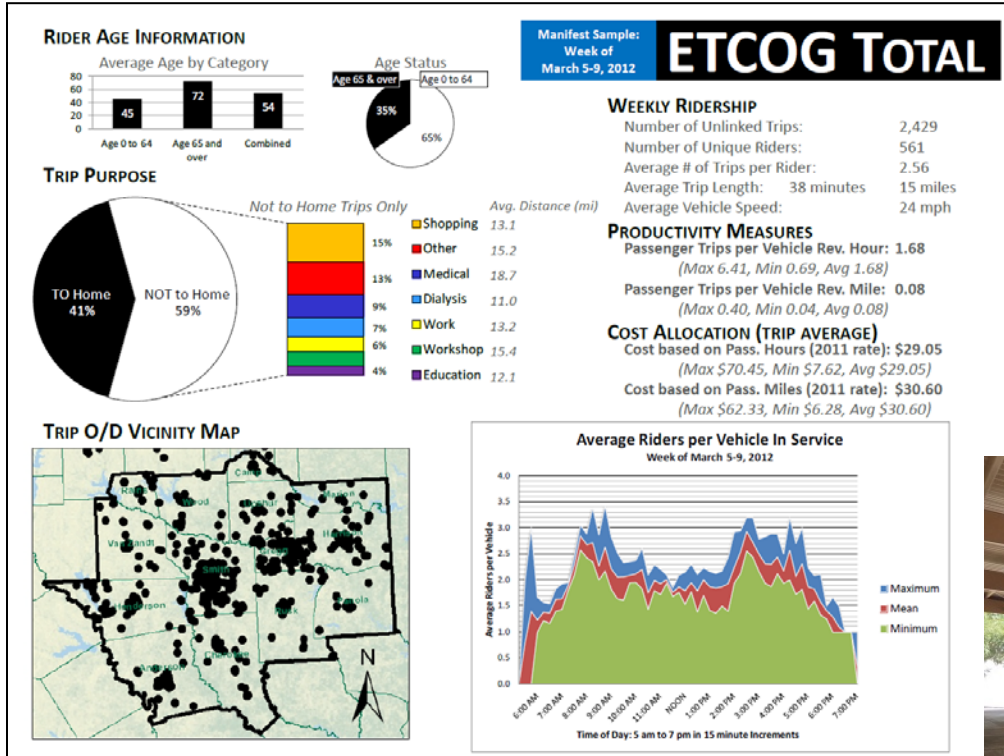


# Leveraging Data and Service Design





# Learning Objectives

At the end of this lesson you will be able to:

- Understand and apply conscious competence learning matrix
- Describe types of information internal to their transit agency or peers
- Recall external sources of information
- Discuss some ways to use information to creatively look at services, existing or new



Conscious Competence Learning Matrix

# KNOWLEDGE AND LEARNING



# Knowledge Is Power

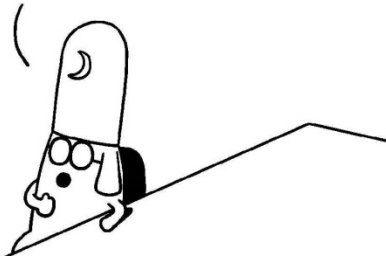
Better understanding your agency can empower you to better manage its resources, reduce its costs, and serve its consumers better, faster, and smarter.

I HAVE THE ABILITY  
TO QUANTIFY THE  
UNQUANTIFIABLE.



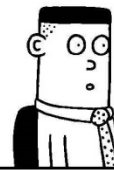
www.dilbert.com scottadams@aol.com

THAT IS WHY  
THEY CALL ME  
DOGBERT THE  
QUANTIFIER.



4-5-07 © 2007 Scott Adams, Inc./Dist. by UFS, Inc.

WHO  
CALLS  
YOU  
THAT?



EIGHT  
PEOPLE.



# Activity 1

## ■ Learning and Competence

CONSCIOUS COMPETENCE LEARNING MATRIX	Competence	Incompetence
	Competence	Incompetence
Conscious	3. We Know We Know	2. We Know We Don't Know
Unconscious	4. We Don't Know We Know	1. We Don't Know We Don't Know

Diagram illustrating the Conscious Competence Learning Matrix, showing the progression of learning and competence across four states:

- 3. We Know We Know (Competence, Conscious)
- 2. We Know We Don't Know (Incompetence, Conscious)
- 1. We Don't Know We Don't Know (Incompetence, Unconscious)
- 4. We Don't Know We Know (Competence, Unconscious)

Arrows indicate the flow of learning:

- From 2 to 3 (Left arrow)
- From 3 to 4 (Down arrow)
- From 4 to 1 (Right arrow)
- From 1 to 2 (Up arrow)

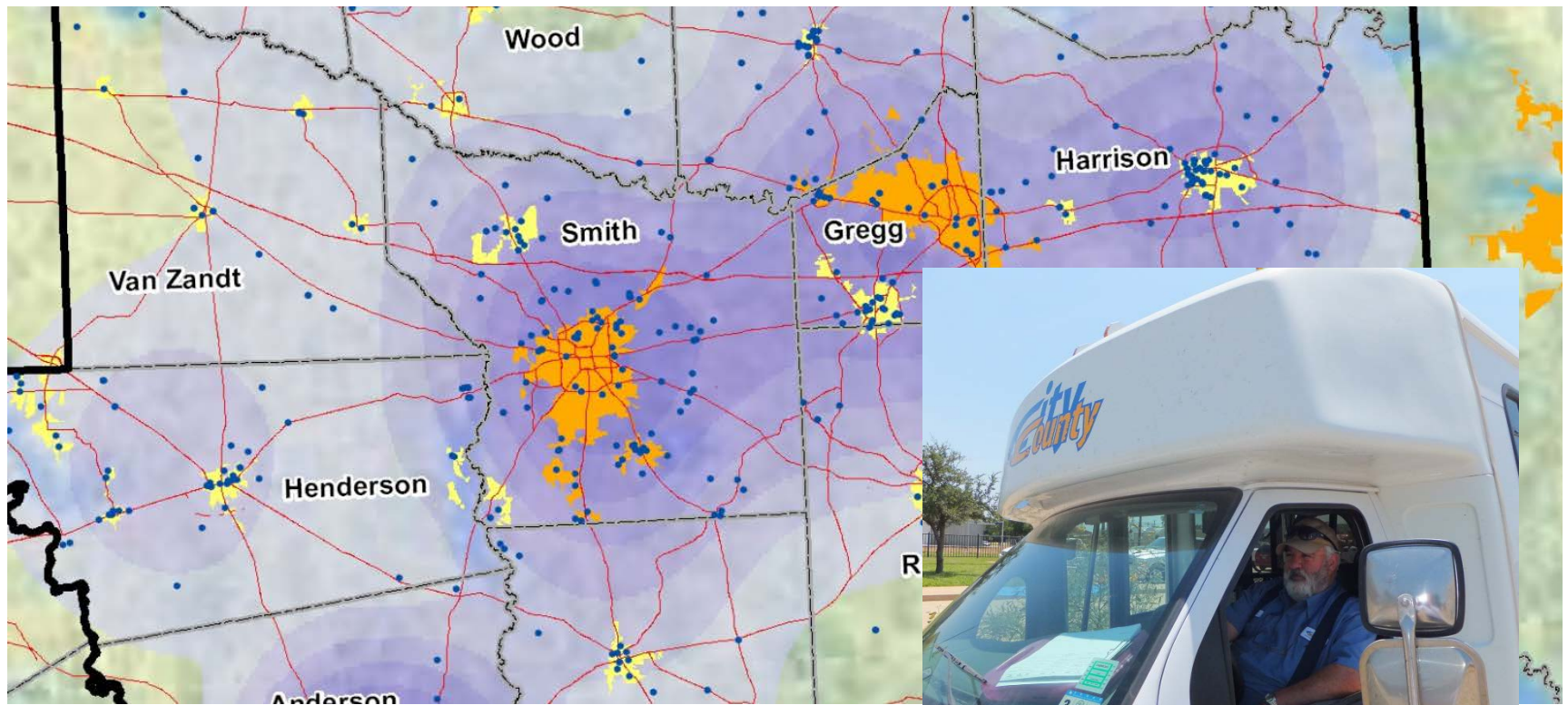
# Rare Skills? Unusual Abilities?

Copyright 2002 by Randy Glasbergen.  
[www.glasbergen.com](http://www.glasbergen.com)



***“It’s not a job skill we normally look for, but it could help us cut our corporate travel budget.”***





What's at your fingertips?

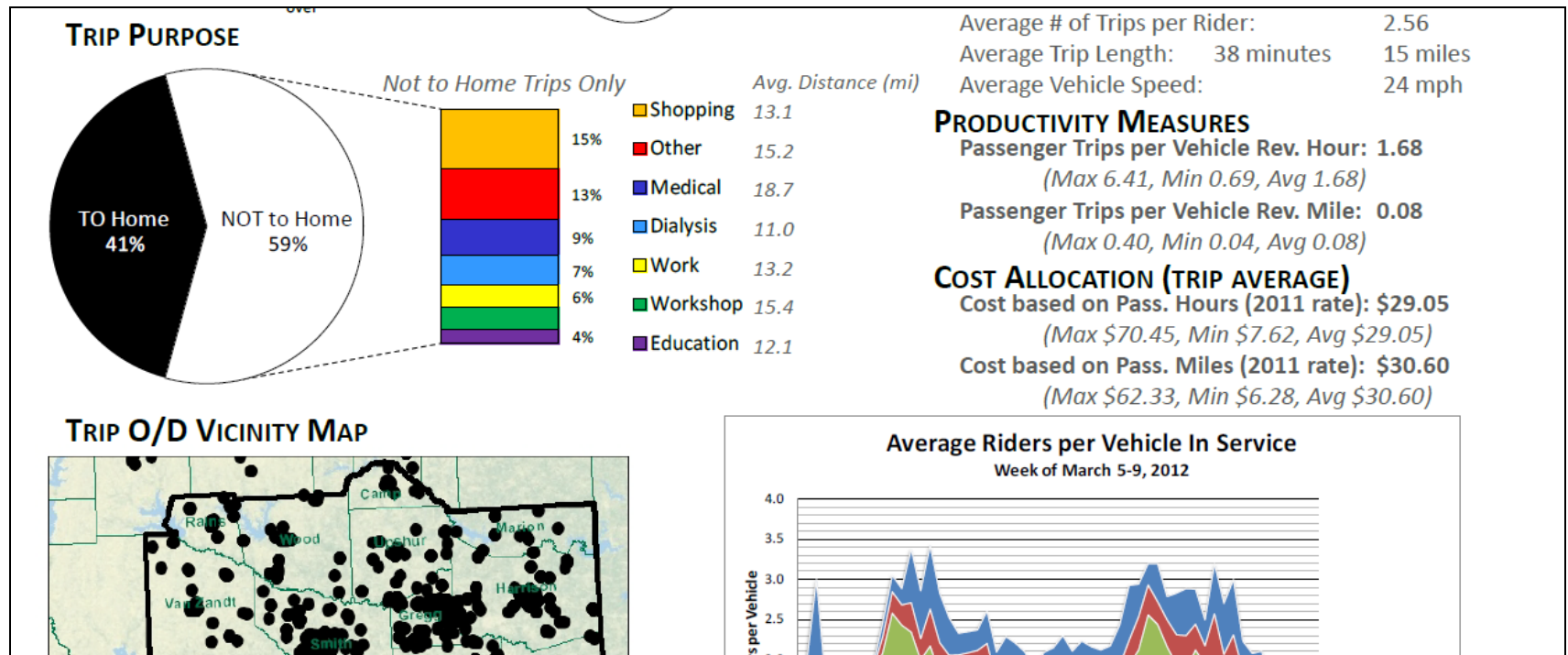
# INFORMATION RICH



# Discussion

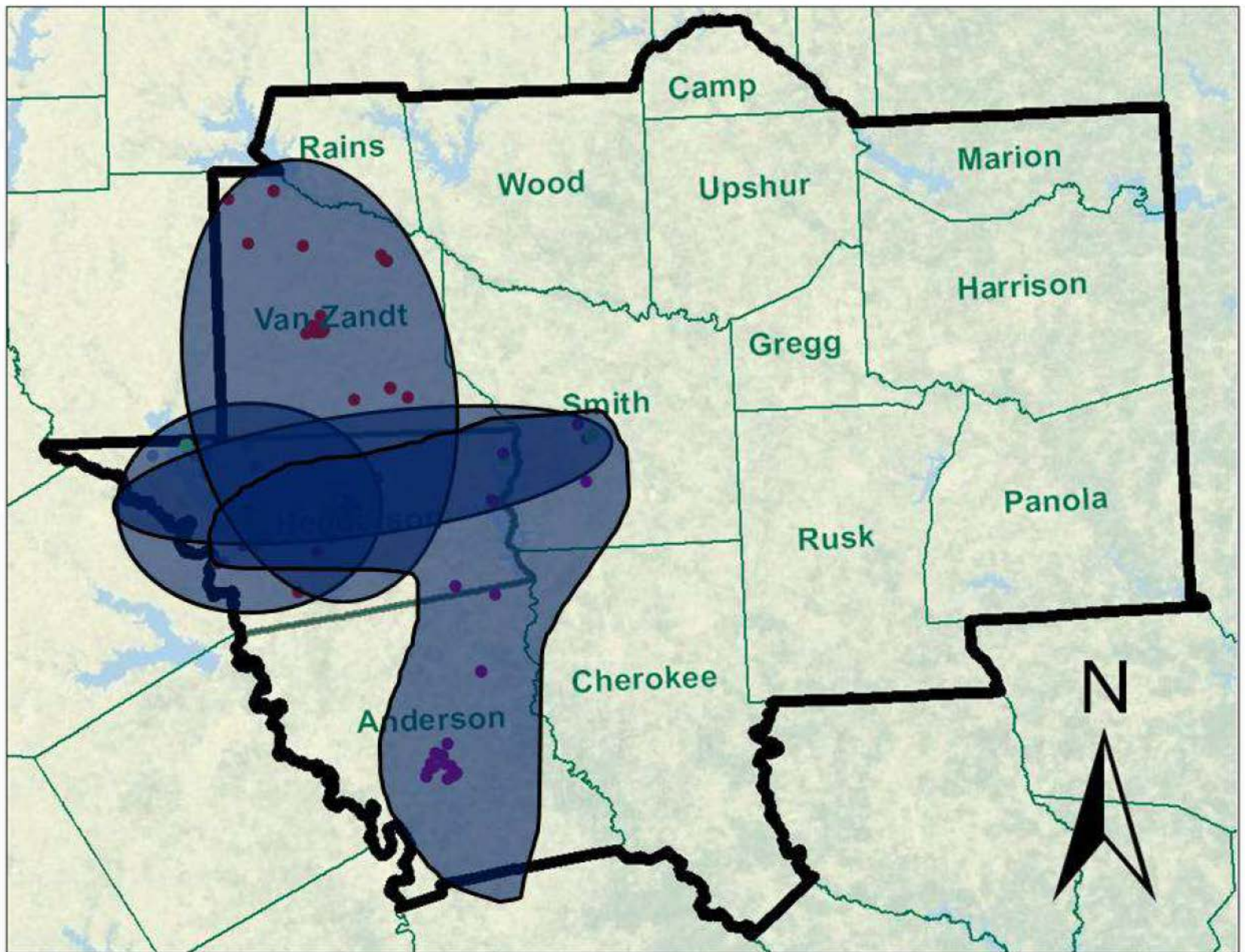
- Internal information
- External information





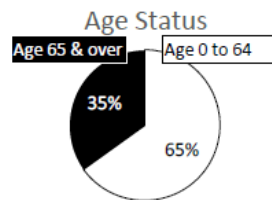
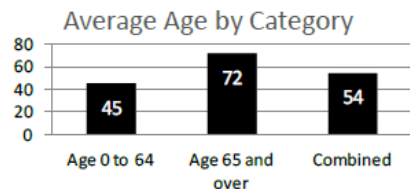
Information is the basis of informed management decisions

# EXAMPLES OF INTERNAL INFORMATION

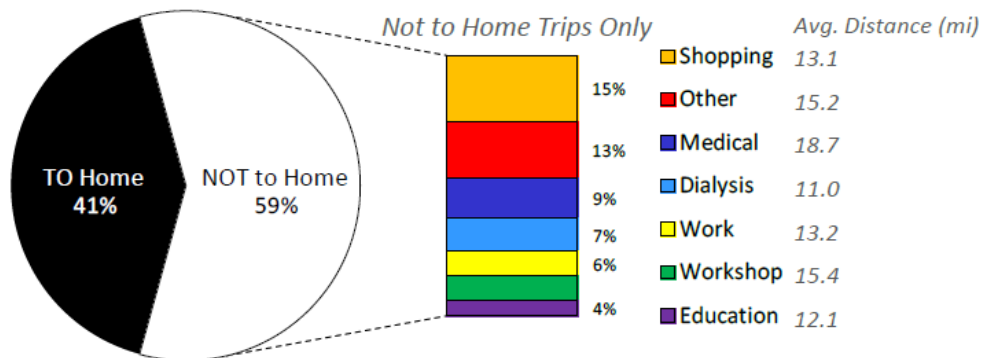




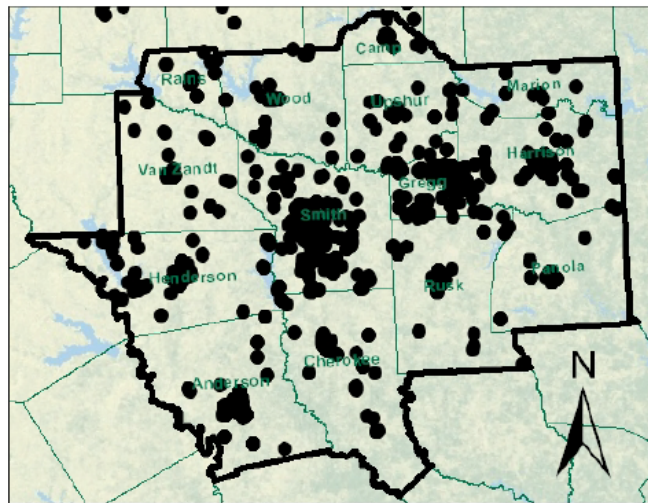
## RIDER AGE INFORMATION



## TRIP PURPOSE



## TRIP O/D VICINITY MAP



Manifest Sample:  
Week of  
March 5-9, 2012

# ETCOG TOTAL

## WEEKLY RIDERSHIP

Number of Unlinked Trips:	2,429
Number of Unique Riders:	561
Average # of Trips per Rider:	2.56
Average Trip Length:	38 minutes 15 miles
Average Vehicle Speed:	24 mph

## PRODUCTIVITY MEASURES

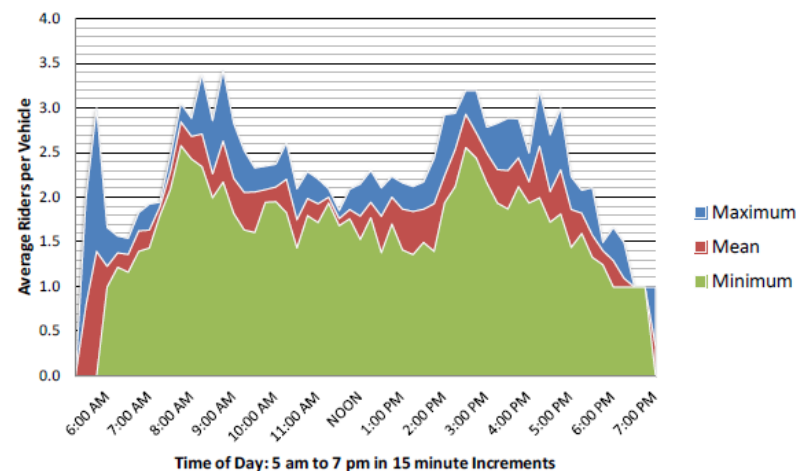
Passenger Trips per Vehicle Rev. Hour:	1.68
(Max 6.41, Min 0.69, Avg 1.68)	
Passenger Trips per Vehicle Rev. Mile:	0.08
(Max 0.40, Min 0.04, Avg 0.08)	

## COST ALLOCATION (TRIP AVERAGE)

Cost based on Pass. Hours (2011 rate):	\$29.05
(Max \$70.45, Min \$7.62, Avg \$29.05)	
Cost based on Pass. Miles (2011 rate):	\$30.60
(Max \$62.33, Min \$6.28, Avg \$30.60)	

## Average Riders per Vehicle In Service

Week of March 5-9, 2012



**1 Which best describes where you are COMING FROM?**

- |                               |   |  |                                  |
|-------------------------------|---|--|----------------------------------|
| <input type="checkbox"/> Work | <input type="checkbox"/> School             | <input type="checkbox"/> Social/Recreational | <input type="checkbox"/> Medical |
| <input type="checkbox"/> Home | <input type="checkbox"/> College/University | <input type="checkbox"/> Shopping/Errands    | <input type="checkbox"/> Other   |

**2 What are the nearest cross streets to the place you CAME FROM?**

\_\_\_\_\_ & \_\_\_\_\_  
*Street 1 Street 2*

*In the City of* \_\_\_\_\_ *Zip code if known* \_\_\_\_\_

*What is the name of the PLACE or BUILDING you came FROM?*

\_\_\_\_\_

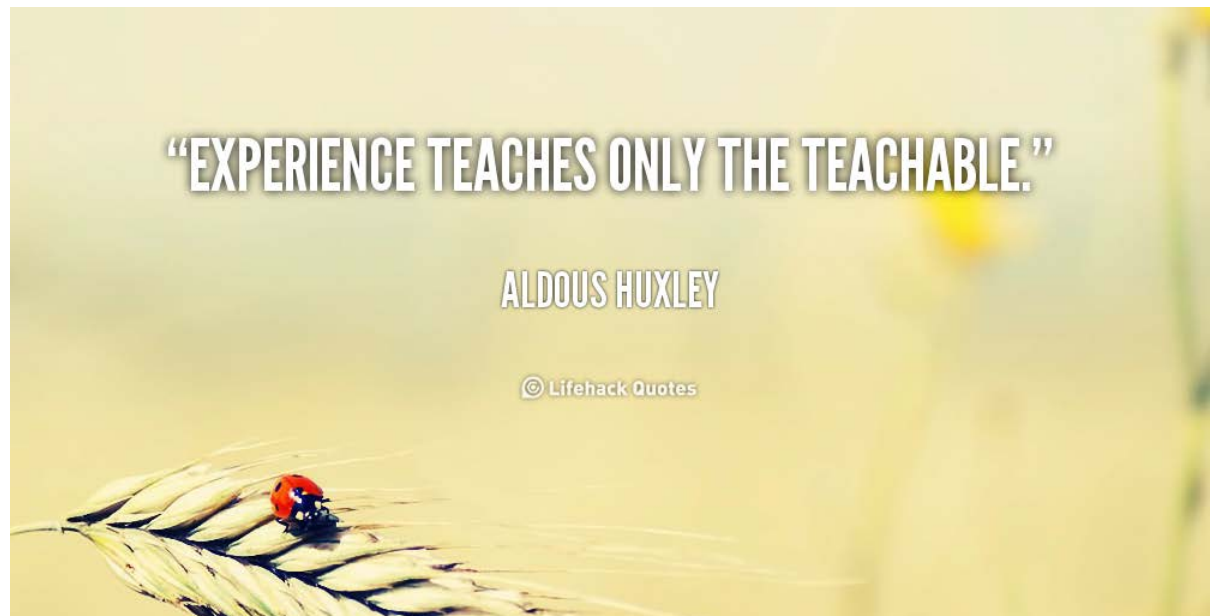
**3 How did you GET FROM that place to the FIRST bus or rail you used for this trip?**

- |  |   |
|--|---|
| <input type="checkbox"/> Drove my car _____ miles and parked | <input type="checkbox"/> Bicycled _____ miles |
| <input type="checkbox"/> Rode _____ miles with someone else  | <input type="checkbox"/> Walked _____ blocks  |

# Other thoughts or practices?

## Activity 2

- The people in this room possess a great deal of collective experience



<http://quotes.lifehack.org/media/quotes/quote-Aldous-Huxley-experience-teaches-only-the-teachable-38890.png>

# What's available? From where?

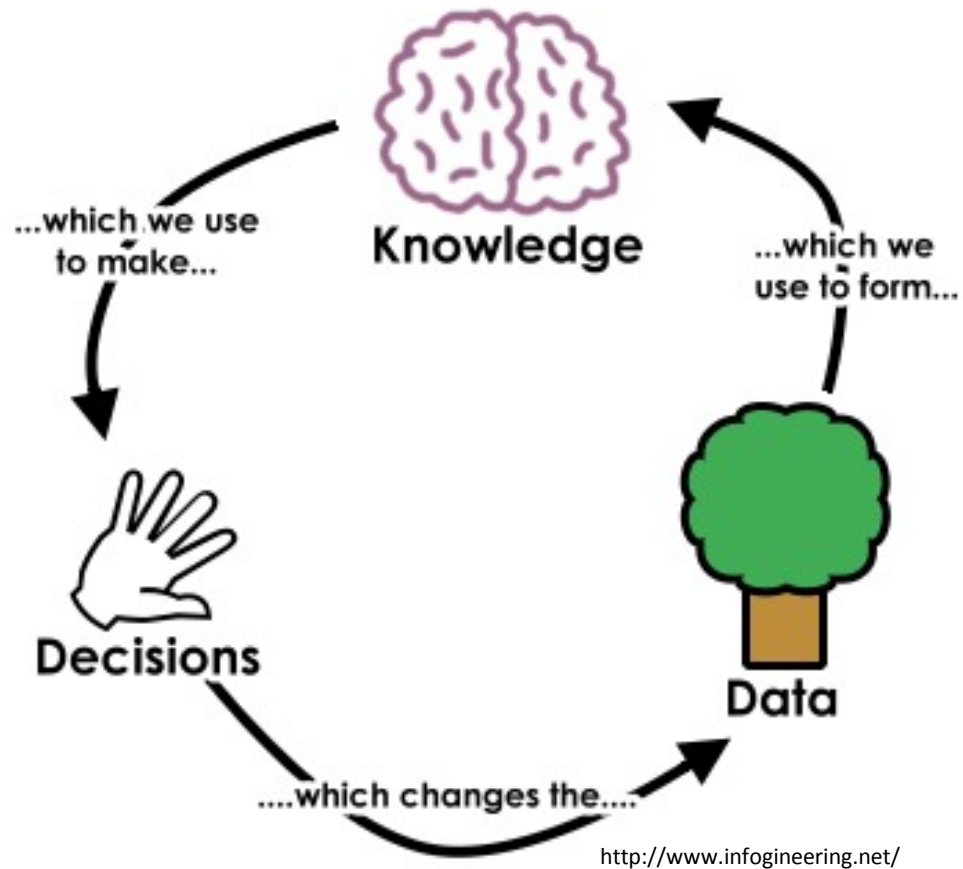
## Activity 3

- Examples of external information and tools



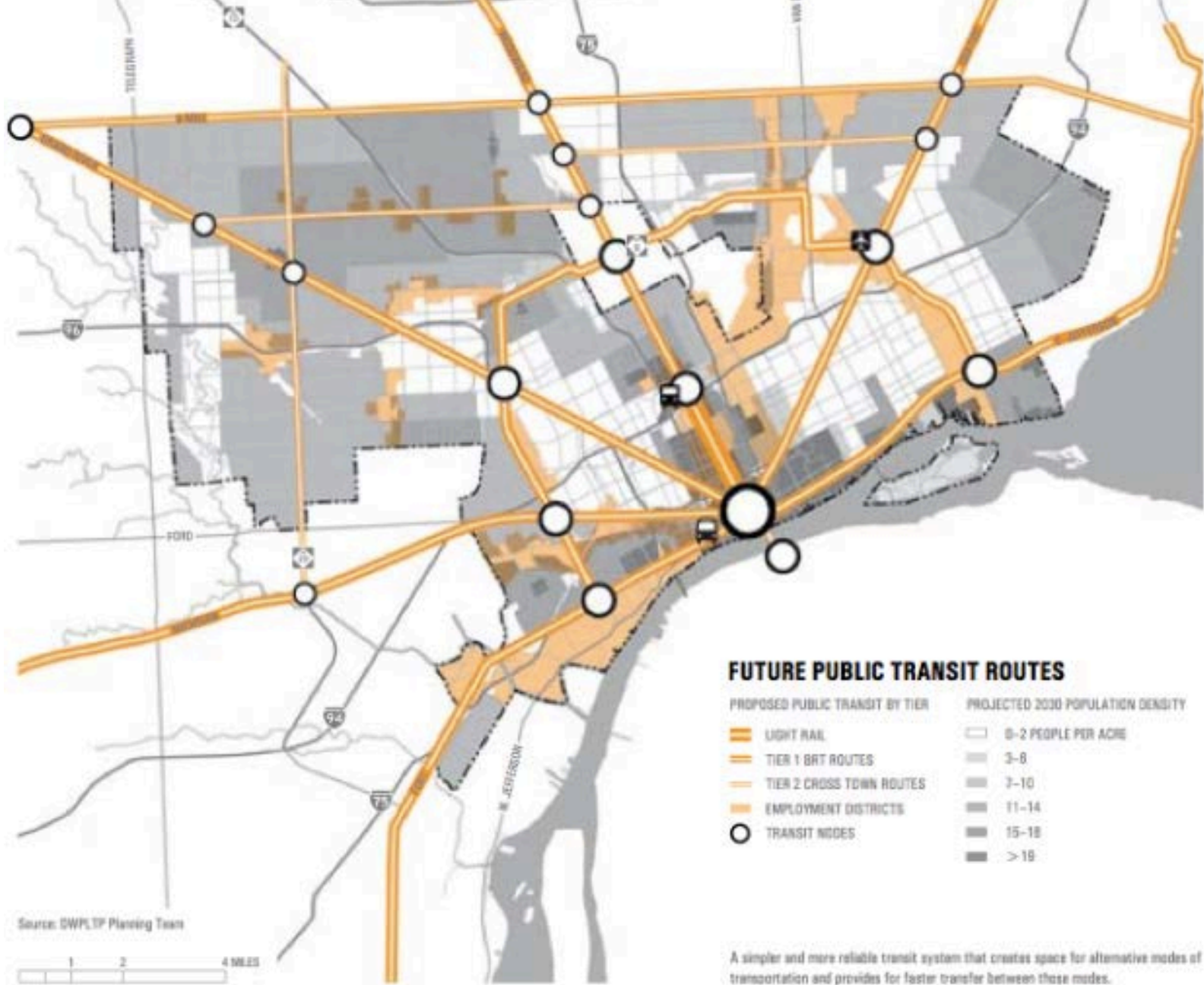
<http://bonjourlife.com/wp-content/uploads/2011/12/Brook-Hunter-Premium-Mo-Tool-Axe-1.jpg>





So what?

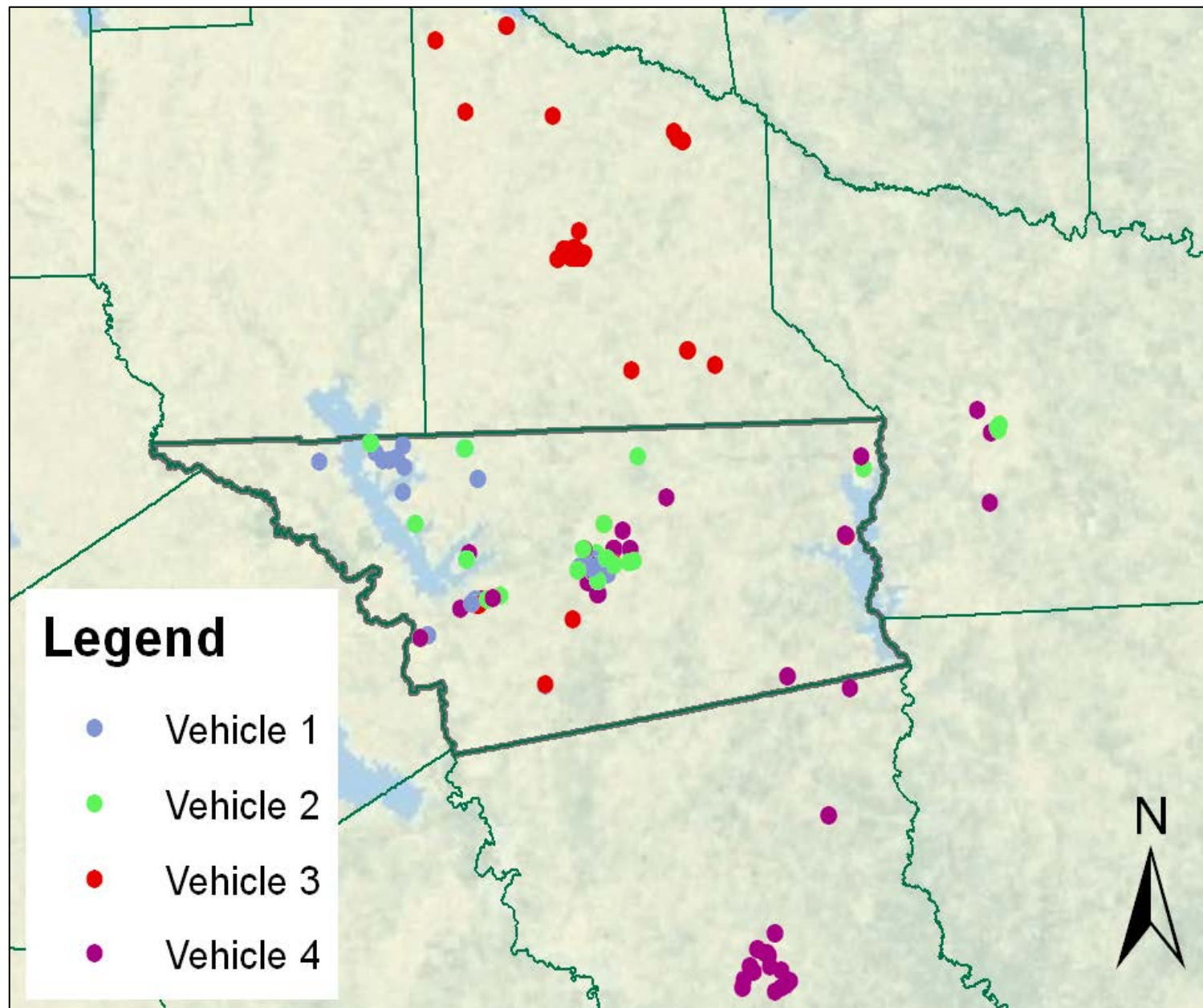
# HOW ARE YOU USING INFORMATION?



# Questions we need information to effectively answer



<http://www.theemployerhandbook.com/qanda.jpg>






# Review: Learning Objectives

Now that we are at the end of this lesson, can you:

- Understand and apply conscious competence learning matrix?
- Describe types of information internal to their transit agency or peers?
- Recall external sources of information?
- Discuss some ways to use information to creatively look at services, existing or new?



*Remember, fill out the session review form.  
We need to know how we can improve, too!*

**Jonathan Brooks**

Associate Transportation Researcher

Texas A&M Transportation Institute

Ph 713.613.9206 or [j-brooks@ttimail.tamu.edu](mailto:j-brooks@ttimail.tamu.edu)

**QUESTIONS? COMMENTS?**