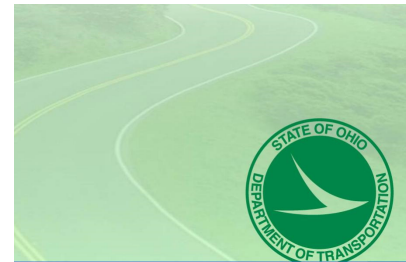
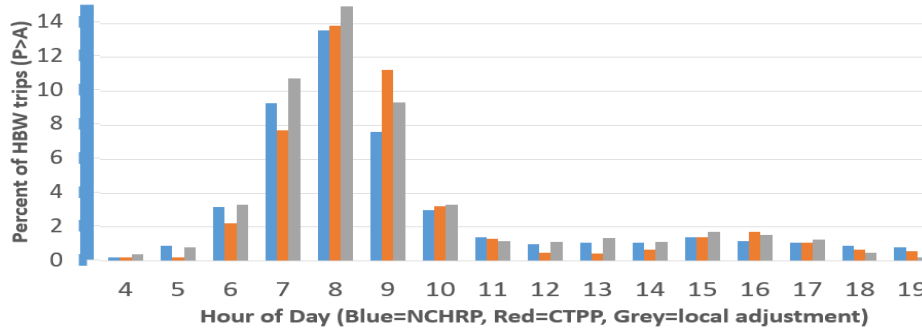


# Use of Time of Arrival at Work Data for DTA and Other Sub-Daily Travel Demand Models

Sam Granato, Ohio Department of Transportation



Adjustment of Journey-To-Work By Time of Day from NCHRP Default to CTPP to Local Traffic Counts (Wheeling, 2000)



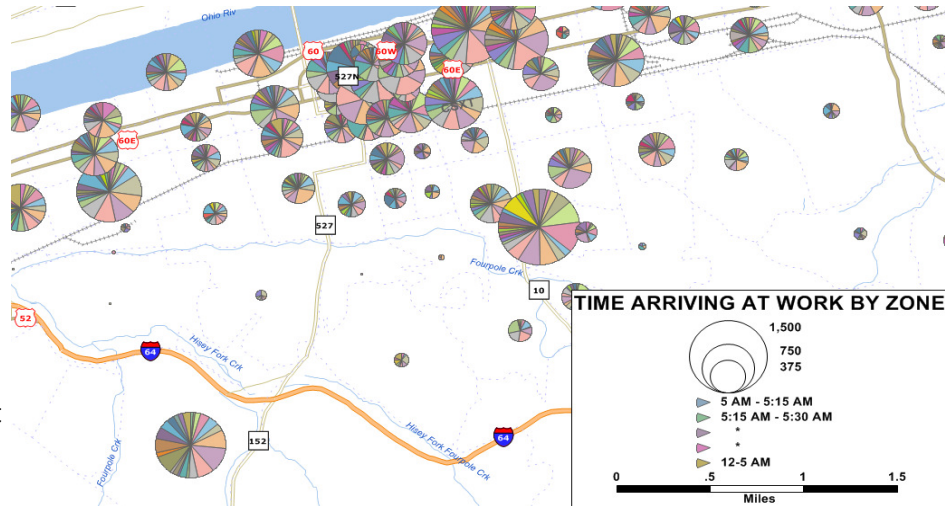
## How was this data used initially? (Area-wide)

- A “default” set of trip percentages by hour of day (and direction) has always been part of the series of Transferable Parameters for travel models (table from latest report shown at right).

Hour Ending	Home-Based Work		Home-Based Nonwork		Home-Based School		Home-Based Other		Nonhome-Based	All Trips
	From Home	To Home	From Home	To Home	From Home	To Home	From Home	To Home		
1:00 AM	0.1%	0.5%	0.0%	0.3%	0.0%	0.0%	0.0%	0.4%	0.2%	0.3%
2:00 AM	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.1%	0.1%
3:00 AM	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
4:00 AM	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
5:00 AM	1.5%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.4%	0.4%
6:00 AM	5.4%	0.0%	0.6%	0.1%	0.2%	0.0%	0.7%	0.1%	0.5%	1.4%
7:00 AM	11.7%	0.0%	1.9%	0.3%	4.0%	0.0%	1.7%	0.3%	1.6%	3.5%
8:00 AM	14.3%	0.1%	6.5%	1.0%	30.6%	0.1%	4.4%	1.1%	4.9%	7.7%
9:00 AM	7.5%	0.1%	4.6%	1.2%	12.8%	0.2%	3.9%	1.3%	5.1%	5.9%
10:00 AM	2.7%	0.3%	3.6%	1.4%	2.2%	0.4%	3.7%	1.5%	5.1%	4.7%
11:00 AM	1.3%	0.3%	3.2%	1.9%	1.2%	0.6%	3.4%	2.1%	6.5%	5.1%
Noon	1.0%	1.0%	2.7%	2.5%	1.0%	1.3%	2.8%	2.6%	9.4%	6.0%
1:00 PM	1.5%	1.8%	2.4%	3.1%	0.9%	2.5%	2.6%	3.1%	10.6%	6.8%
2:00 PM	1.7%	1.4%	2.7%	2.8%	0.5%	2.2%	2.8%	2.9%	8.7%	6.1%
3:00 PM	1.7%	2.7%	2.8%	4.0%	0.5%	8.8%	3.0%	3.5%	8.5%	6.9%
4:00 PM	1.1%	6.3%	2.6%	5.3%	0.7%	12.2%	2.8%	4.7%	9.2%	8.3%
5:00 PM	1.0%	8.9%	3.2%	4.8%	1.0%	4.5%	3.3%	4.9%	8.4%	8.4%
6:00 PM	0.5%	10.6%	3.7%	5.1%	1.3%	3.7%	3.9%	5.2%	7.4%	8.7%
7:00 PM	0.3%	4.4%	4.2%	4.1%	0.7%	1.5%	4.5%	4.3%	5.0%	6.7%
8:00 PM	0.2%	1.9%	2.3%	4.0%	0.1%	1.2%	2.5%	4.2%	3.8%	4.8%
9:00 PM	0.2%	1.2%	1.0%	4.0%	0.0%	1.1%	1.1%	4.3%	2.2%	3.5%
10:00 PM	0.2%	1.3%	0.5%	2.8%	0.2%	1.4%	0.5%	2.9%	1.4%	2.4%
11:00 PM	0.3%	1.3%	0.2%	1.4%	0.0%	0.6%	0.3%	1.5%	0.8%	1.4%
Midnight	0.2%	1.3%	0.2%	0.7%	0.0%	0.0%	0.2%	0.8%	0.3%	0.8%
<b>Total</b>	<b>54.4%</b>	<b>45.6%</b>	<b>49.0%</b>	<b>51.0%</b>	<b>57.7%</b>	<b>42.4%</b>	<b>48.2%</b>	<b>51.8%</b>	<b>100.0%</b>	<b>100.0%</b>

## How are differences at the zone level being used?

- This GIS Map shows time of arrival at work by zone in the KYOVA (Huntington) MPO area in 15 and 60 minute intervals.
- These figures were aggregated to hourly level and used to place zones into different "groups" for hourly rates for work-related trip purposes. (Based on the number of workers arriving in that zone in the area-wide peak hour compared to the average rate.)



## The end product for this application:

- Estimation for planning purposes how both the duration as well as extent of congestion within the region might change in the future, as land use changes and capacity or operations-level projects may or may not be implemented to manage this.

