



AVERAGE TRIP LENGTH ANALYSIS

MTMUG, July 21, 2021

Question: Which bridges are most critical to the movement of freight?



WHICH HAS THE GREATEST
DRAW?



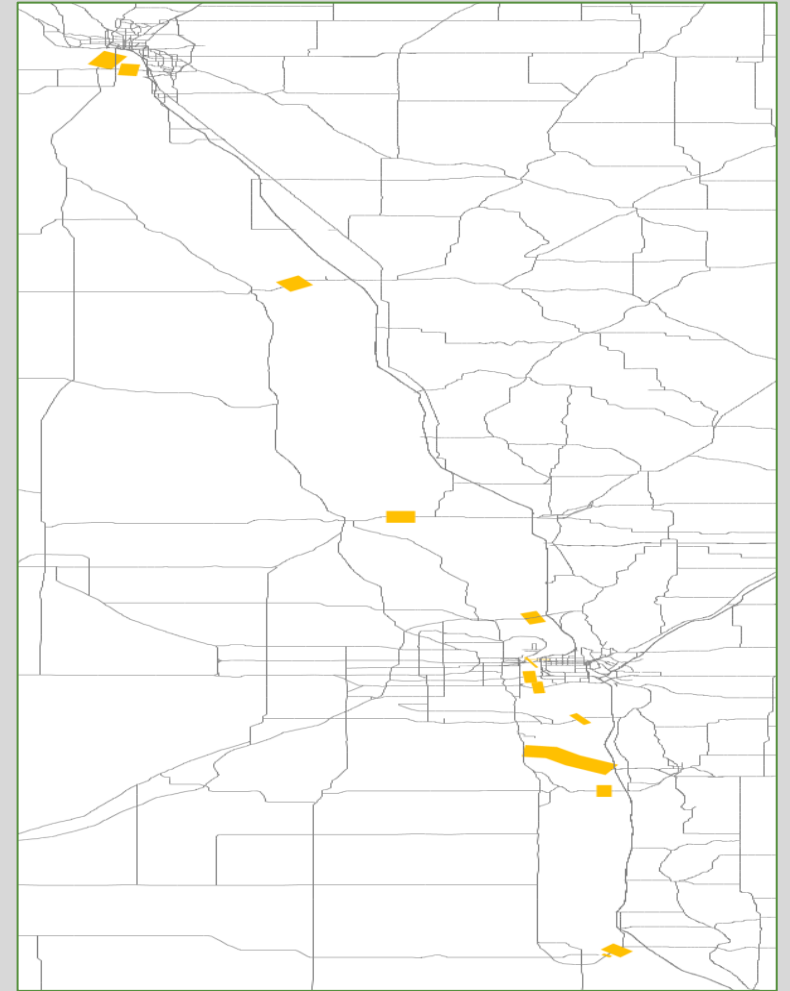
WHICH SHOULD GET PRIORITY
TREATMENT IN MAINTENANCE?



WHICH TO INCLUDE ON THE
MULTIMODE FREIGHT NETWORK?

Analysis: What is the average trip length via iTRAM?

- Analysis Steps
 1. Create a list of candidate locations [Primary and Interstate] along the Missouri river
 2. Mark each of the locations in the Select Link tool



Analysis: What is the average trip length via iTRAM?

- Analysis Steps

4. Open the “TimeSkim.mtx” from the Step 2 folder and select the “length” matrix core.

5. Use TransCAD to manually add in intrazonal trip times with the normal default parameters

TransCAD (Licensed to Iowa DOT)

File Edit Matrix Tools Procedures Networks/Paths Planning Window Help

gctt No marginals

Matrix2 - Shortest Path (gctt)

	89896	89904	90009	90105
89896	--	159.48	258.02	240.52
89904	159.48	--	181.08	165.17
90009	229.09	110.55	--	78.54
90083	181.37	62.84	228.62	211.12
90097	311.83	234.18	148.69	83.96
90104	280.19	202.54	117.05	52.32
90105	239.98	162.33	76.84	--
90111	282.22	232.07	156.73	92.00
90115	275.27	225.12	156.56	96.25
90117	206.99	156.84	115.68	144.75 140.16 111.93
90128	222.64	142.27	56.78	85.86 111.59 81.65
90137	192.94	142.79	88.40	117.48 141.62 111.68

Analysis: What is the average trip length via iTRAM?

- Analysis Steps

6. Create a new matrix for the summation of the matrix math, multiply the trips from step 3 with the length from step 4 to get VMT
7. Compute the matrix statistics and take the VMT for the selected bridge and divide by the select link trips
 - This will need to be done for each select link
 - This will need to be done for each truck and auto matrix

Analysis: What is the average trip length via iTRAM?

- Analysis Results

Number	Route	County	Matrix Sum	VMT	Trip Length
1	I-80	Pottawattamie	35,867	6,393,135	178.2
2	IA 2	Fremont	2,677	328,634	122.8
3	I-680	Pottawattamie	26,268	2,633,935	100.3
4	US 30	Harrison	3,959	347,157	87.7
5	IA 175	Monona	1,171	78,317	66.9
6	US 34 New	Mills	8,801	569,112	64.7
7	US 75	Woodbury	13,440	805,902	60.0
8	IA 370	Mills	2,893	161,776	55.9
9	I-480	Pottawattamie	48,284	1,291,010	26.7
10	US 77	Woodbury	22,112	546,741	24.7
11	US 34 Old	Mills	305	6,449	21.2
12	IA 92	Pottawattamie	13,142	264,789	20.1

Analysis: What is the average trip length via iTRAM?

Thoughts or Questions?