

Topeka Signal System

186 signalized intersections



- Structures designed for 40 year life
 - ▶ Should be replacing 5 per year
 - ▶ Technology, conduits, wiring not lasting that long

Current Program Annual \$ = \$885,000

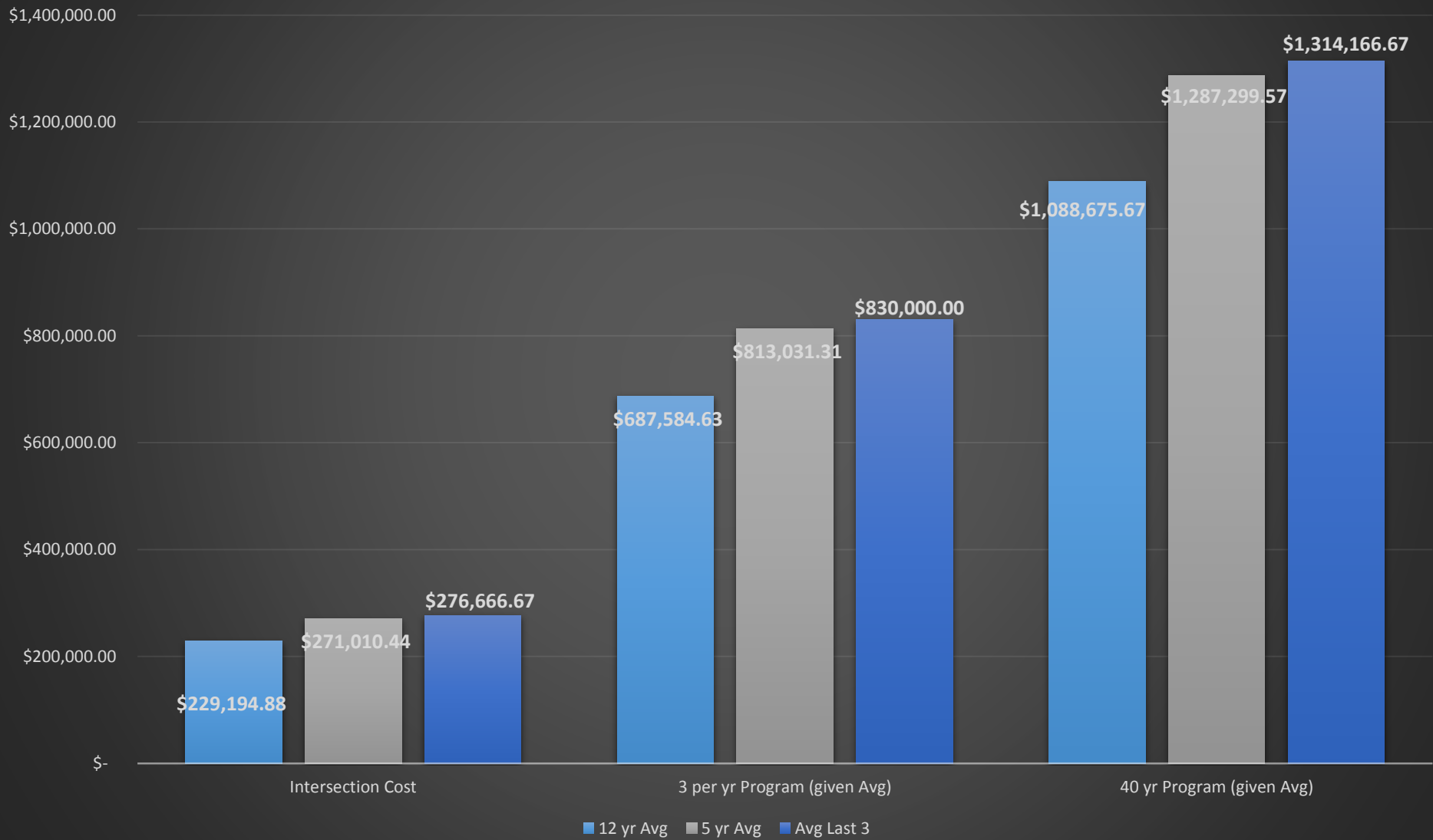
Cost per intersection @ 5 per year = \$185,000

Most recent intersection costs = \$275,000




ADA requirements: sidewalk improvements and increased number of structures

Signal Replacement Program Costs



More Money ~or~ Different Approach?

Define Problem:

- ▶ COT is NOT on a 40 year replacement cycle

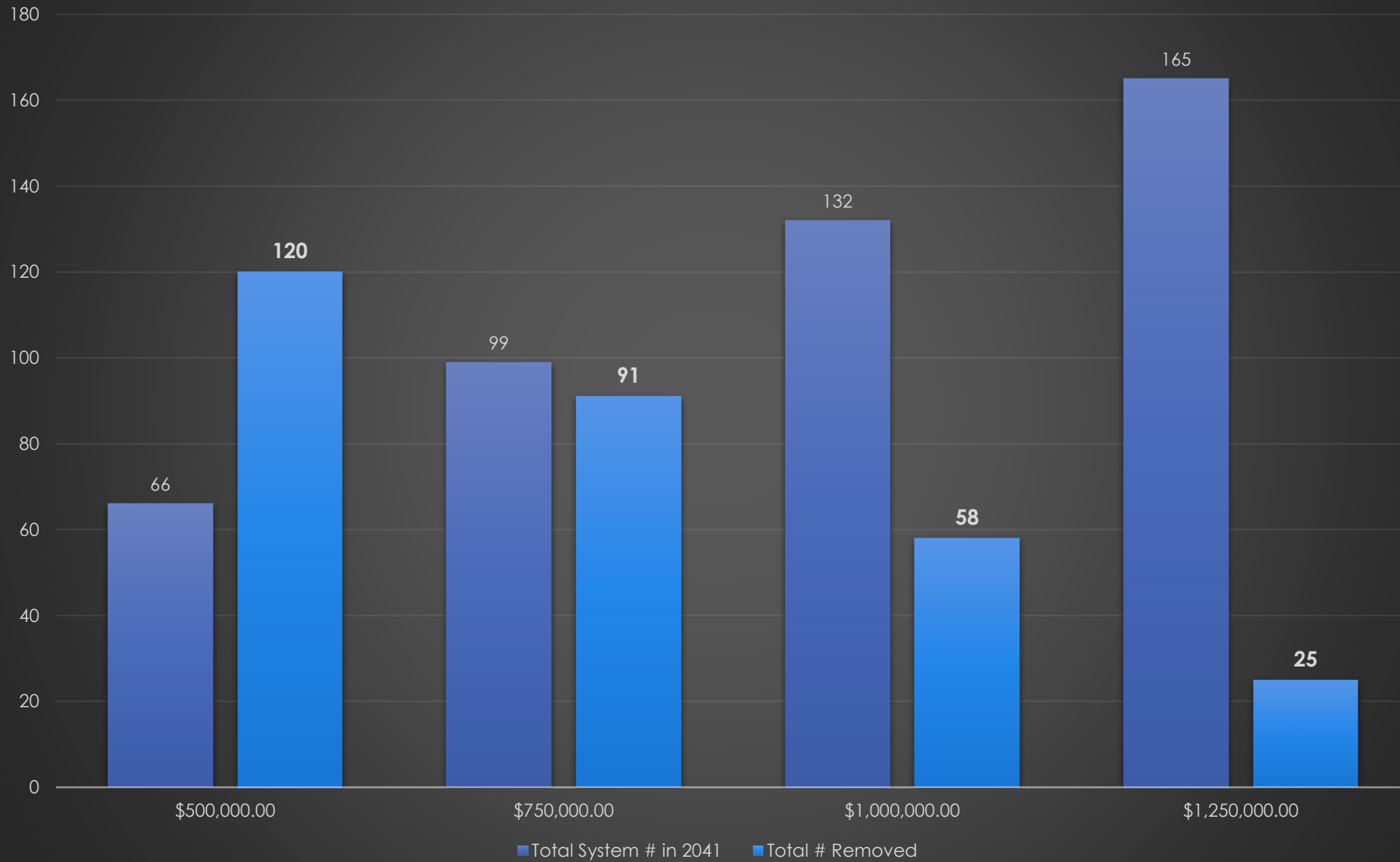
Why?

- ▶ Funding limitations?

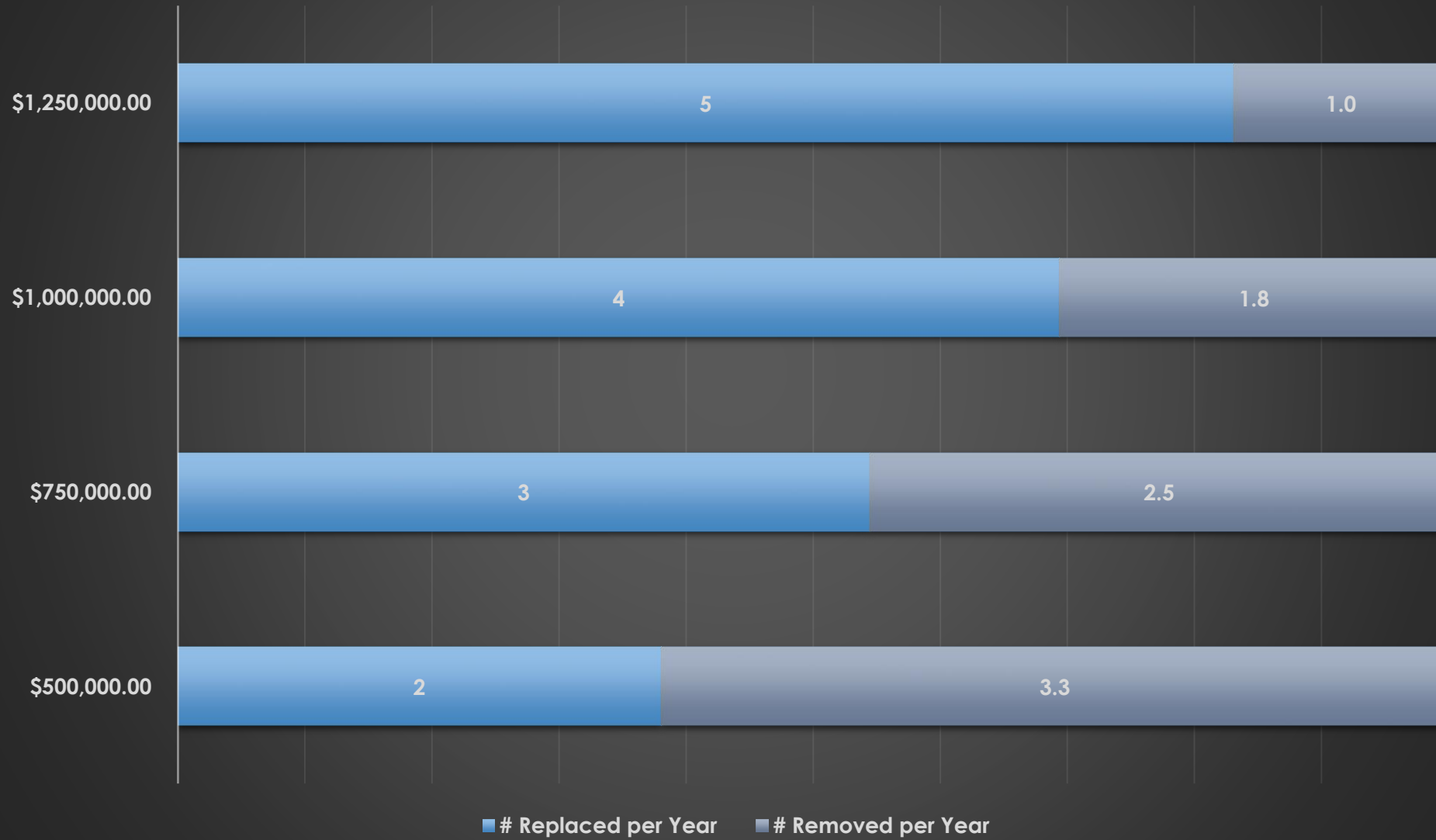
Variables  cause and effect  inverse relationship

Amount of money committed ~ Number of Signals in the system

Impacts to System Size

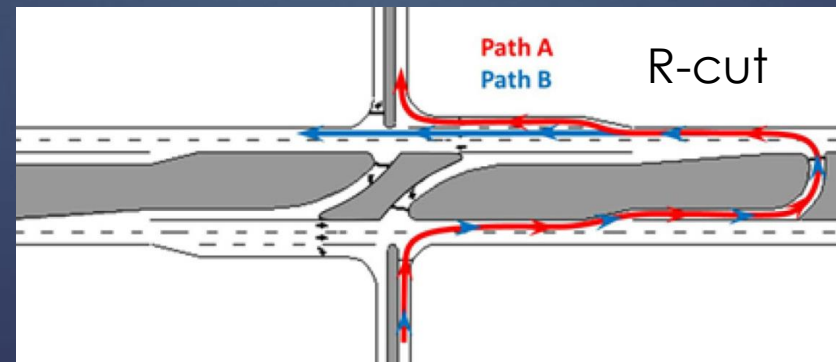
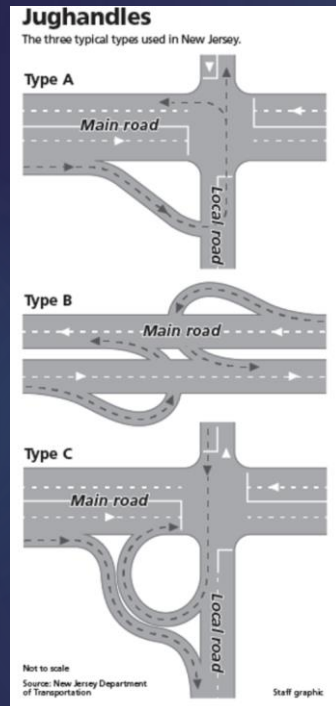


Annual Cost 40 year Cycle



Other ways to handle intersection traffic

Medians



2 way Stop +
ped crossing

Other considerations

that impact how we choose to handle intersection traffic

- ▶ Intersection capacity (as a function of people throughput, not vehicle throughput per Complete Streets)
- ▶ Costs of conducting signal warrant analyses and physically removing signals. Cost of changing how intersection traffic is handled. Costs of maintenance.
- ▶ Safety (Goal is overall decrease in number of fatal and serious injury crashes, with multi-modal considerations)
- ▶ Traffic flow changes including delays & congestion and changing habits (resident complaints). Cost to upgrade signal capabilities (technology)
- ▶ Capacity of future projects to make changes

Next Steps

Consider the idea that we currently fund a 100-intersection signal system

Consider our desire for enhanced signal capability

Consider implications of a smaller signal system than what we currently have

2021 Signal Replacements Program

Replace

- 10th street @ Washburn and Lane
- 21st & Randolph

Study

- 9th & Quincy
- 7th & Jackson
- 5th & Jackson
- 4th & Jackson
- Huntoon & Tyler

Remove

Based on Study Results and available funds