

January 18, 2023

Anthony Echelle  
 District 2 Engineer  
 Oklahoma Department of Transportation  
 P.O. Drawer 628  
 Antlers, OK 74523

Re: JP 34333(04) | US-259 Typical Section Matrix

Anthony,

Per the discussion on 1/3/23 regarding options for the preferred typical section through Hochatown, FNI has identified four potential alternatives to consider for this corridor (including the existing facility as a baseline metric) and have developed a simple matrix below to compare their corresponding attributes and relative ranking in ascending order from most ideal to least ideal. The attributes are summarized in the following sections along with graphics of each alternative.

**Table 1: US-259 Typical Section Comparison Matrix**

Highway Type	Safety	Capacity	Right-of-Way*	Access	Construction Cost	Efficiency of Turns	Total Score	Rank
Two-lane highway (Existing facility)	60	4	12	9	12	4	101	5
Two-lane highway with continuous two-way left turn lane (3-Lane)	105	6	10	9	10	7	147	4
Four-lane undivided highway	105	8	8	9	8	11	149	3
Four-lane divided highway (Raised or depressed median)	150	10	5	8	6	9	188	2
Four-lane divided highway with continuous two-way left turn lane (5-lane)	150	10	6	8	6	10	190	1

Colors: Green=Most Ideal, Red=Least Ideal

Final Ranking: 1=Most Ideal, 5=Least Ideal

\* Includes adjacent business parking considerations

Below is a general summary of each attribute being considered:

- **Safety** – This is a comparison of safety between the alternatives regarding automotive travel in the driving and turn lanes. It does not consider pedestrian or ATV travel.
- **Capacity** – This term represents a general estimation of the differences between the alternatives' maximum hourly rate at which persons or vehicles can reasonably be expected to travel through a point during a given timeframe under prevailing roadway and traffic conditions.
- **Right-of-Way** – This represents the foreseeable considerations and/or impacts to adjacent properties regarding right of way acquisition and parking additions and/or removals. Any right-of-way acquisition or parking relocation is not considered to be ideal for this project.

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- **Access** – Access refers to the ability of the traveling public to make right and left turns into and out of adjacent properties freely without restrictions.
- **Construction Cost** – This represents the estimated cost to construct the roadway project. It does not take into account:
  - User-benefit costs
  - Right-of-way acquisition costs
  - Utility relocation costs
  - engineering costs
  - maintenance costs
- **Efficiency of Turns** – This is a qualitative measurement of the efficiency of vehicles making left and right turns without conflict.

Additionally, FNI has generated weighting coefficients (scale of 1-20) for each of the aforementioned attributes, based on perceived importance for the US-259 corridor, to generate a "ranking" for each alternative. The scores shown in the previous matrix were generated by applying the weights/coefficients from table 2 to their respective category and alternative.

**Table 2: Attribute Ranks**

Rank	Attribute	Weighting Coefficient
1	Safety	15
2	Right-of-Way	11
3	Access	11
4	Capacity	8
5	Efficiency of Turns	8
6	Construction Cost	7

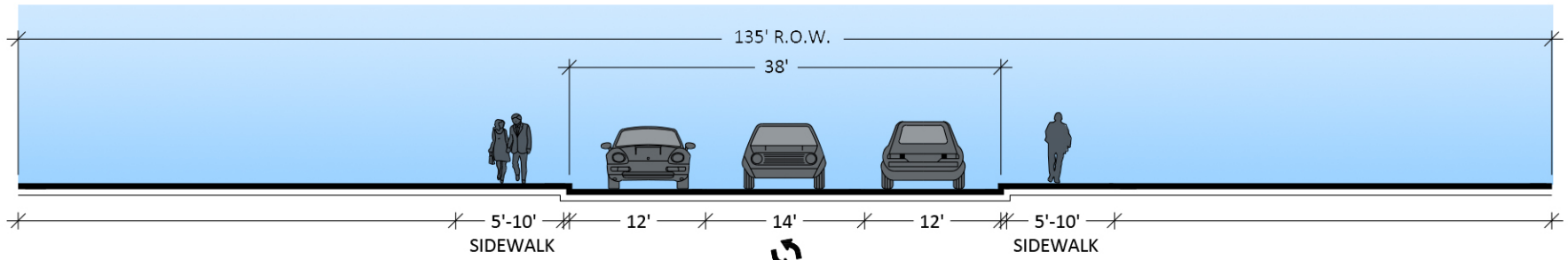
We hope this helps and look forward to our further discussions on the subject. If you have any questions or need additional information, don't hesitate to give us a call.

Sincerely,

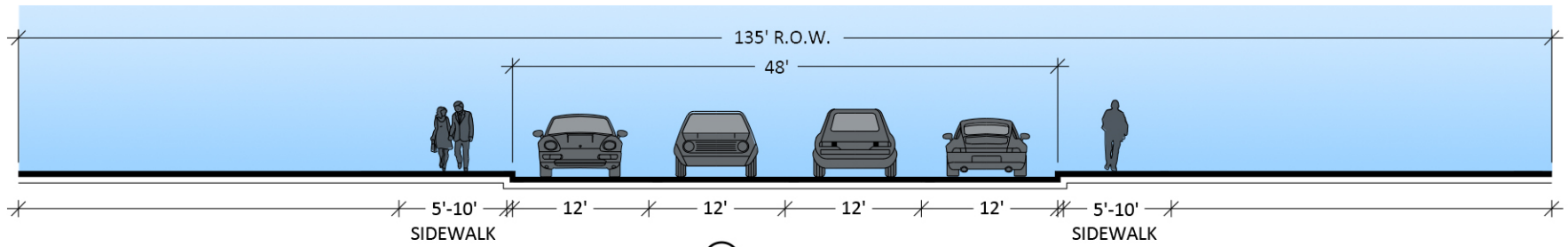
Cort Westphal, PE  
 Project Manager

**Attachments**

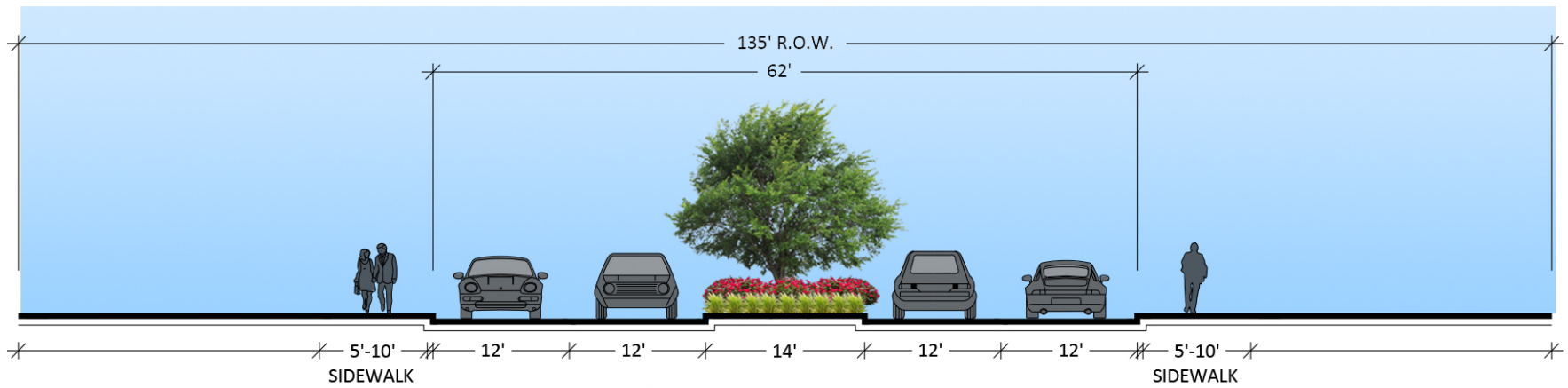
- Typical Section Graphics



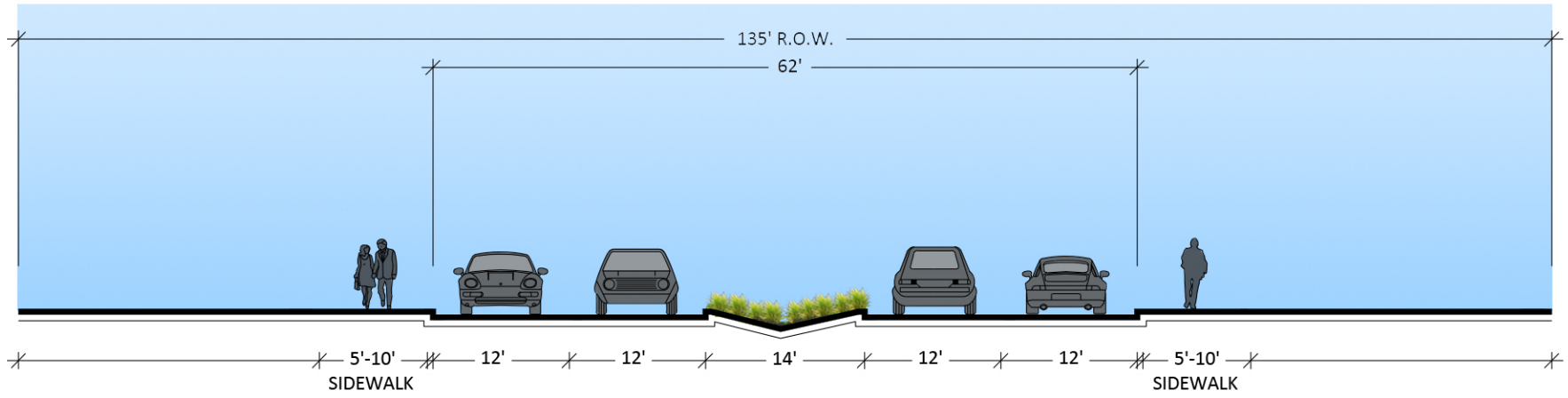
SECTION ① 2-LANE: WITH TWO-WAY LEFT TURN LANE



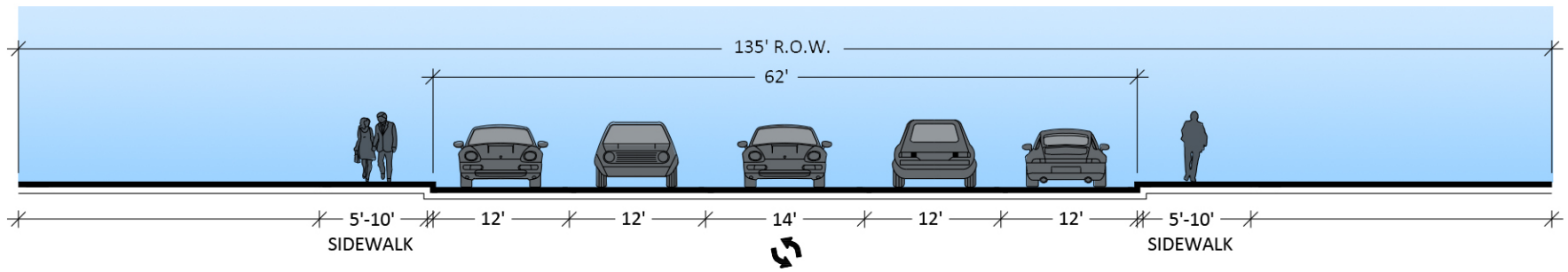
SECTION ② 4-LANE: UNDIVIDED



SECTION ③ 4-LANE: WITH RAISED MEDIAN



SECTION ③A 4-LANE: WITH DEPRESSED MEDIAN



SECTION ④ 4-LANE: WITH TWO-WAY LEFT TURN LANE