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South Dakota Avenue and Decatur Street, NE
DDOT Pedestrian Safety and Access Study
EXECUTIVE SUMMARY

The District of Columbia Department of Transportation performed an analysis of the intersection of South Dakota Avenue and Decatur Street NE in Washington, D.C., including traffic signal warrant studies for a standard traffic signal and a Pedestrian Hybrid Beacon (also known as a HAWK - High-intensity Activated CrossWalK signal).

The purpose of this study was to assess intersection operations and safety and determine what, if any, safety countermeasures and traffic control changes are warranted and/or feasible. The primary concern addressed in the study was the safe crossing of pedestrians at this uncontrolled intersection location, specifically concerns raised by the community about seniors.

Traffic data, including turning movement counts, pedestrian counts, crash data, vehicle speeds, available gaps, and sight distance, were obtained and evaluated in the study. The operational analysis focused on intersection safety, capacity, and level of service. The signal warrant analysis were conducted for a full traffic signal and a HAWK signal.

FINDINGS

The following summarizes the findings at the intersection of South Dakota Avenue and Decatur Street NE in Washington, D.C.:

1) EXISTING GEOMETRY: The existing intersection has uncontrolled movements on South Dakota Avenue (a four-lane undivided principal arterial) and stop signs on Decatur Street (a local street.)
2) SPEED: The posted speed limit on South Dakota Avenue is 25 miles per hour. The 85th-percentile speed was measured at 34 mph in both directions.
3) GAPS, DELAYS, QUEUES: The gap study showed an insufficient number of gaps in each direction available on South Dakota Avenue during the AM and PM peak hours to accommodate side street vehicles and pedestrians in a one-stage crossing. The delays and queues observed during the field visit were minimal.
4) CAPACITY ANALYSIS: Approximately 15,000 vehicles were counted on South Dakota Ave. in a 12-hour period with bi-directional peak hour volumes of 1400 vehicles. Under existing conditions, the eastbound approach of Decatur St. operates at levels of service (LOS) F during the AM peak hour and LOS D in the PM peak hour. The westbound approach of Decatur St. operates at a LOS C or better.
5) CRASH EXPERIENCE: Nine traffic crashes were recorded during the three year period 2012-2014 (MPD). ***Of the nine crashes, one crash involved a pedestrian in April of 2014. Based on the MPD report, the pedestrian was crossing the east leg of Decatur St. (not crossing SD Ave.)***
6) PEDESTRIANS: 148 pedestrians were observed during the 12-hour count at the intersection, of which 27 crossed South Dakota Avenue. The maximum peak hour pedestrian volume crossing South Dakota Avenue was nine people.
7) BICYCLES: Thirteen bicycles were observed during the 12-hour count; seven bicycles traveled on South Dakota Avenue.

8) TRANIST: MetroBus stops exist at the intersection, serving the route 80 bus. The highest use of the stop is in the eastbound direction in the AM peak, with 15 boardings, and in the westbound direction in the PM peak, with 17 alightings. Total average daily bus stop usage is 108 riders. The nearest westbound stop is 460 ft. away at 12th St. and the nearest eastbound stop is 475 ft. away at 12th and Crittenden Streets.
9) DISTANCE TO NEAREST SIGNALS: Approximately 350 feet southeast of Decatur Street on South Dakota Avenue is 12th Street, which is signalized. The nearest signalized intersection to the northwest on South Dakota Avenue is at Delafield Street/Emerson Street, approximately 850 feet away.
10) SIGHT DISTANCE: Stopping sight distance is met for drivers on South Dakota Avenue. Intersection sight distance is met for eastbound vehicles on Decatur Street, when vehicles are traveling at the posted speed limit. Sight distance is not met for Decatur Street when vehicles are traveling at the 85th-percentile speed.
11) ANALYSIS FINDINGS:
    a. A standard traffic signal is not warranted based on any of the MUTCD signal warrants. The number of vehicles entering South Dakota Ave. from Decatur Street is too low.
    b. A pedestrian hybrid beacon (HAWK signal) is not warranted based on the MUTCD warrant because of low pedestrian volumes crossing South Dakota Ave.

RECOMMENDATIONS

Short-term:

- **Provide improved signing and marking for the existing crosswalk.** Install new pedestrian warning signs (MUTCD W11-2) and "down arrow" plaques on each side of the crosswalk. Install "PED XING" text on the pavement on the approaches to the crosswalk. Install new advance pedestrian warning signs and radar speed signs (driver feedback signs) in both directions, and an in-street "DC Law Stop for Pedestrians in Crosswalk" paddle at the existing crosswalk. Restripe all crosswalks to provide high visibility ladder markings.

Medium-term:

- **Install Rectangular Rapid Flashing Beacon (RRFB).** Install solar powered, pedestrian activated RRFB, double sided, on each side of the crosswalk, install advance stop lines and "Stop Here for Pedestrians" signs at each stop line.

Long-term:

- Study South Dakota Ave. between Michigan Ave. and Riggs Road for lane reduction ("road diet") to reduce vehicle speeds and improve crossing safety.