

Rockingham County Route 704 to Route 257 Connector Analysis

VDOT Staunton District Planning – February 2024

PURPOSE

To estimate travel demand effects associated with the construction of a new connector roadway between Rt 704/Cecil Wampler Rd and Rt 257/Friedens Church Rd in Rockingham County, VA.

UNDERSTANDING OF SCOPE

Rockingham County seeks to improve connectivity to and from I-81 for the County and City's industrial growth area primarily situated along Rt 704/Cecil Wampler Rd, Rt 679/Pleasant Valley Rd, and Rt 988/Early Rd through the construction of a new connector roadway between Rt 704/Cecil Wampler Rd and Rt 257/Friedens Church Rd. This concept has previously been referred to as the Walton Way Extension because the most likely tie-in point to the south would be the access road, Walton Way, for the Wal-Mart Distribution Center located on Rt 257/Friedens Church Rd; however, an alternative alignment option on the west side of I-81 will also be considered in this analysis. The County anticipates that the connector would provide a travel time benefit for industrial users, particularly large trucks. VDOT Staunton District Planning has developed a planning level travel demand analysis summarized in this technical memo to accomplish the requested scope.

Below are existing and proposed route options for vehicles traveling from Rt 704/Cecil Wampler Rd at Crowe Dr to I-81 south of Exit 240. These routes can be seen on the study area map, **Figure 1**.

I-81 South of Exit 240

- Rt 704/Cecil Wampler Rd --- US-11/S Valley Pike --- Rt 257/Friedens Church Rd @ Exit 240
- Rt 704/Cecil Wampler Rd --- Rt 988/Scholars Rd --- Rt 681/S Whitesel Church Rd --- Rt 257/Friedens Church Rd @ Exit 240

Proposed Connector Roadway Options

- **East Connector Option:** Crowe Dr --- Walton Way --- Rt 257/Friedens Church Rd (east of I-81 Exit 240)
 - 2-lane roadway, 45 mph Posted Speed Limit, 1.1 mile length
- **West Connector Option:** Rt 704/Cecil Wampler Rd --- Rt 257/Friedens Church Rd (west of I-81 Exit 240)
 - 2-lane roadway, 45 mph Posted Speed Limit, 1.2 mile length

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Figure 1. Study area with connector roadway options



EXISTING CONDITIONS

Table 1 provides characteristics for existing roadways used for current routing options between Rt 257 and Rt 704.

Table 1. Characteristics of Existing Route Options

Route	Typical Section	Lane Width	Shoulder	Speed Limit	2021 AADT
US-11/S Valley Pike	4-lane, Median divided	12 ft	None	55 mph	14,000
Rt 257/Friedens Church Rd	2-lane, Marked centerline	12 ft	7 ft	55 mph	13,000
Rt 704/Cecil Wampler Rd	2-lane, Marked centerline	11 ft	None	45 mph	6,000
Rt 679/Pleasant Valley Rd	2-lane, Marked centerline	11 ft	None	40 mph	5,000
Rt 898/Pleasants Dr	2-lane, Marked centerline	11 ft	None	35 mph	3,000
Rt 988/Early Rd	2-lane, Marked centerline	11 ft	None	40 mph	2,000
Rt 988/Scholars Rd	2-lane, No centerline	9 ft	None	Unposted	500
Rt 681/Whitesel Church Rd	2-lane, No centerline	9 ft	None	Unposted	200

To compare existing routes to and from I-81 south of Exit 240 (e.g. – those trips likely to benefit from the new connector), the Google Maps directions tool was used to determine the distance and typical PM peak at 4 PM on a weekday (Table 2). Two start/end points were selected for these routes as representative locations where typical trips might start/end within the currently developed industrial area, with Pleasant Valley Rd @ Pleasants Dr representing users to the north and Early Rd @ Crowe Dr representing users to the south. Route choices are colorized by travel time, with the quickest option in light green, middle option in light yellow, and slowest option in light red.

Table 2. Typical Travel Times for Route Options, Departing 4 PM on a Weekday in 2023 (Google Maps)

Route	Via Exit 240, Rts 704/11/257	Via Exit 243, Rts 679/11	Via Exit 240, Rts 704/988/681/682	Via Connector East of I-81	Via Connector West of I-81
Pleasant Valley Rd @ Pleasants Dr to I-81S South of Exit 240	8-10 min 4.2 miles	8-12 min 5.4 miles	12 min 5.6 miles	~8 min 3.6 miles	~7 min 3.6 miles
I-81N South of Exit 240 to Pleasant Valley Rd @ Pleasants Dr	8-12 min 4.3 miles	7-10 min 5.5 miles	10 min 5.5 miles	~8 min 3.5 miles	~8 min 3.7 miles
Early Rd @ Crowe Dr to I-81S South of Exit 240	6-9 min 3.5 miles	9-12 min 5.8 miles	12 min 5.0 miles	~7 min 2.9 miles	~6 min 2.9 miles
I-81N South of Exit 240 to Early Rd @ Crowe Dr	6-9 min 3.6 miles	8-12 min 5.8 miles	10 min 4.9 miles	~7 min 2.8 miles	~6 min 3.0 miles

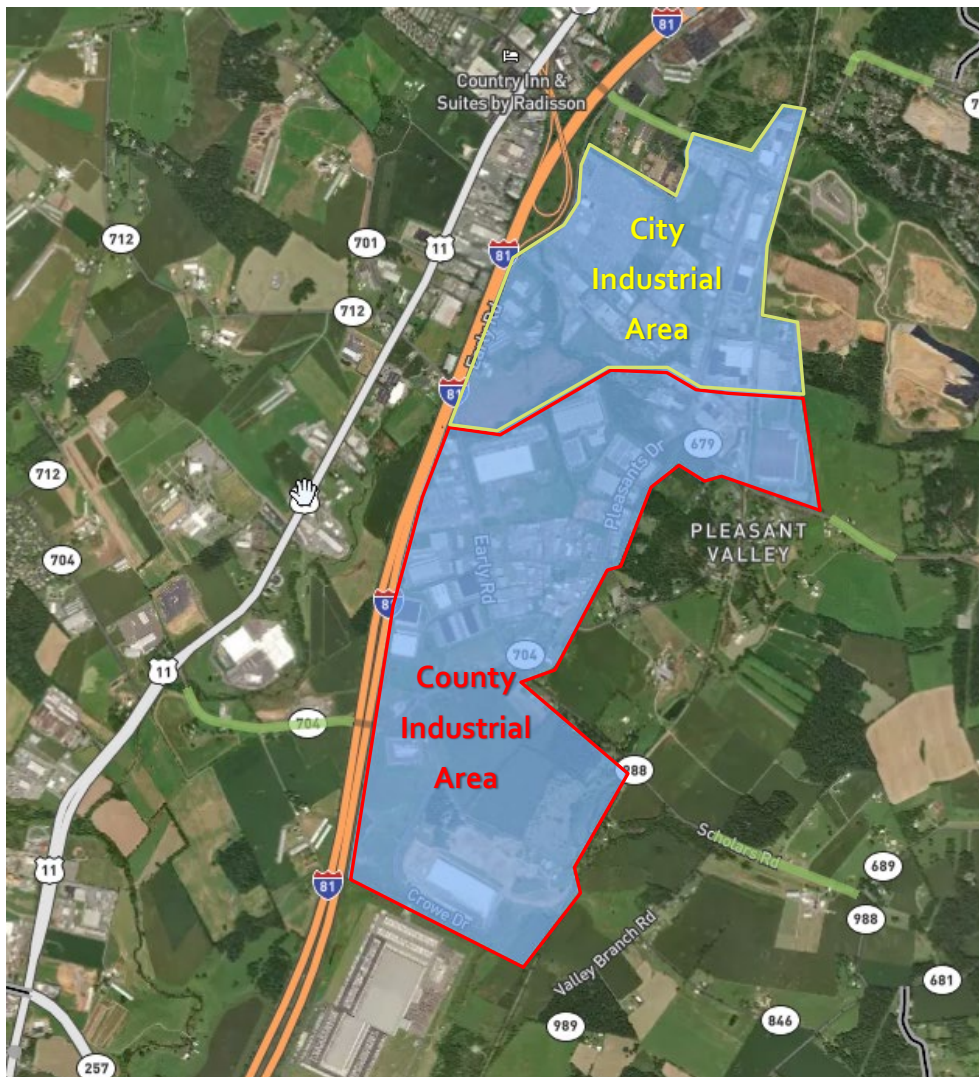
Estimates of travel times and distances are also provided for the connector roadway options based on 2023 travel conditions, with minimal existing delays assumed at intersections. Travel time on the connector roadway itself was calculated based on its distance and posted speed. Generally, travel time, using each of the connector roadway options, is estimated to be comparable to existing route options during off-peak times; however, the connector roadway provides

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more reliable travel times than US-11 during high traffic periods because congestion on US-11 is avoided. The future construction of a Buc-ee’s travel center at the Exit 240 interchange opposing Walton Way is expected to decrease travel time reliability for the connector roadway options, as the development will generate significant traffic at the interchange (>16,000 vehicles/day), albeit with implementation of a capacity expansion project.

Origin-designation (O-D) data were compiled to estimate the percent of traffic using each of the existing route options and to help estimate the proportion of traffic that might gain a travel time advantage using the new connector roadway. A StreetLight Data analysis (**Table 3, all vehicles; Table 4, heavy vehicles**) was performed to ascertain relative traffic distributions on each potential routing option for each O-D route pair. StreetLight Data is a “big data” service available to VDOT and MPOs in the Commonwealth that facilitates relative O-D estimates, among other features, by aggregating data from location-based services on smartphones. The industrial area served by the proposed connector roadways was split into two origin zones at the City-County line to highlight possible differences in O-D routing preferences based on proximity to the Exit 240 interchange versus Exit 243 interchange with I-81 (**Figure 2**).

Figure 2. County and City Industrial Areas Used for O-D Analysis



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Table 3. Estimated O-D Route Share by City/County Origin Zone for All Vehicles

Destination	Origin by Locality From Pleasant Valley Industrial Area		
	County + City Industrial Area	County Industrial Area	City Industrial Area
US-11 North of Exit 243	24.2%	16.6%	30.8%
I-81 South of Exit 240	18.6%	25.6%	12.5%
I-81 North of Exit 243	14.3%	13.2%	15.3%
Rt 689/Spaders Church Rd	13.9%	14.8%	13.1%
Rt 710/Ridgedale Rd	10.7%	9.0%	12.2%
US-11 South of Exit 240	5.5%	8.4%	3.0%
Rt 257/Dinkel Ave	4.7%	3.7%	5.5%
Rt 679/Pleasant Valley Rd	3.7%	1.4%	5.7%
Rt 704/Osceola Springs Rd	2.9%	5.3%	0.8%
Ramblewood Rd	0.9%	0.8%	1.0%
Rt 988/Scholars Rd	0.5%	1.1%	0.1%
Rt 682/Friedens Church Rd	0.1%	0.1%	0.0%
% INDUSTRIAL TRIPS TO/FROM THE SOUTH (All Vehicles)	24.2%	34.1%	15.5%

Table 4. Estimated O-D route share by City/County origin zone for heavy trucks

Destination	Origin by Locality From Pleasant Valley Industrial Area		
	County + City Industrial Area	County Industrial Area	City Industrial Area
I-81 South of Exit 240	48.1%	51.4%	45.7%
I-81 North of Exit 243	45.0%	40.2%	48.4%
US-11 North of Exit 243	3.6%	4.6%	2.9%
US-11 South of Exit 240	2.3%	1.9%	2.5%
Rt 257/Dinkel Avenue	0.4%	0.7%	0.2%
Rt 689/Spaders Church Road	0.3%	0.6%	0.1%
Rt 710/Ridgedale Road	0.2%	0.2%	0.1%
Rt 682/Friedens Church Road	0.1%	0.2%	0.0%
Rt 679/Pleasant Valley Road	0.1%	0.2%	0.0%
% INDUSTRIAL TRIPS TO/FROM THE SOUTH (Heavy Trucks)	50.5%	53.5%	48.2%

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The StreetLight Data traffic distributions demonstrate that approximately 24% of all traffic and about 50% of all trucks originating from the industrial area is destined for points south that may benefit from the new connector roadway. Non-commercial users originating from the industrial area heavily favor destinations to the north toward Harrisonburg, while heavy (presumably commercial) truck users are evenly split in preference for destinations to the north and south, with almost all trucks destined for I-81. These findings were corroborated using a separate O-D analysis using Rt 704/Cecil Wampler Rd between Crowe Dr and US-11 as an origin/destination point to estimate the proportional distribution of trips to and from the universe of routing options (Table 5). Based on the StreetLight O-D estimates, approximately 22% of traffic using Rt 704/Cecil Wampler Rd between Crowe Dr and US-11 make trips to and from points south that may benefit from the new connector roadway.

Table 5. Estimated O-D Route Share to/from Rt 704/Cecil Wampler Rd for All Vehicles

Origin/Destination	Cecil Wampler Rd as Origin	Cecil Wampler Rd as Destination	Average Proportional O-D for Cecil Wampler Rd
Rt 704/Oakwood Dr	24.2%	21.4%	22.8%
Rt 257/Dinkel Ave	16.6%	18.1%	17.4%
Rt 689/Spaders Church Road	12.8%	14.3%	13.6%
US-11 South of Exit 240	11.2%	10.3%	10.8%
I-81 South of Exit 240	10.3%	10.7%	10.5%
Rt 710/Ridgedale Rd	5.4%	6.6%	6.0%
Rt 704/Osceola Springs Rd	5.7%	6.0%	5.8%
US-11 North of Exit 243	4.0%	3.5%	3.8%
I-81 North of Exit 243	3.5%	2.0%	2.7%
Rt 701/Pike Church Rd	1.3%	2.4%	1.9%
Rt 679/Pleasant Valley Rd (County)	1.9%	1.5%	1.7%
Pleasant Valley Rd (City)	0.7%	0.8%	0.8%
Rt 756/Liskey Rd	0.8%	0.4%	0.6%
Ramblewood Rd	0.3%	0.5%	0.4%
Rt 988/Scholars Rd	0.4%	0.4%	0.4%
Rt 988/Early Rd	0.4%	0.2%	0.3%
Rt 682/Friedens Church Rd	0.3%	0.3%	0.3%
Rt 710/Greendale Rd	0.3%	0.3%	0.3%
Rt 679/Pleasant Valley Rd	0.1%	0.1%	0.1%
% DISTRIBUTION TO/FROM THE SOUTH (All Vehicles)	21.8%	21.3%	21.6%

A rough estimate of the daily weekday traffic using each of the routes in 2023 was developed using the StreetLight Data distributions (Table 5), with the proportional distribution of traffic heading to points south (21.8%) being applied to the daily traffic volume on Cecil Wampler Rd (6,000 veh/day). To provide a conservative estimate, it was assumed that 100% of these trips would choose the new roadway over existing route options. **If put in place in 2023, a new connector roadway option (east or west of I-81) would be expected to attract roughly 1,300 veh/day.**

TRAVEL DEMAND MODEL CALIBRATION & VALIDATION

The Harrisonburg-Rockingham MPO travel demand model (TDM) was identified by VDOT and Rockingham County as the most appropriate tool to estimate the travel demand on the proposed connector roadway. The TDM uses locality-defined land use (population and job growth) assignment by Traffic Analysis Zone (TAZ) and was designed to compare travel patterns between existing and build scenarios for automobile trips. A TAZ is a geographic area assigned socioeconomic attributes for modeling purposes. The HRMPO TDM includes scenarios for base year 2015 and horizon year 2045. Existing and committed fully funded projects within the MPO were included in the 2045 model scenarios, though the only project in the study area is the planned capacity expansion at the Exit 240 interchange associated with the Buc-ee’s development. Land use assumptions were revised to include Buc-ee’s, incorporating the trip distribution assumptions used for the Exit 240 OSAR, adding ~16,000 trips to the I-81 Exit 240 interchange. The TAZ on the east side of I-81 bounded by Rt 704/Cecil Wampler Rd and Rt 257/Friedens Church Rd was split in half east-west to better reflect loading within the planned industrial expansion area in the vicinity of Rt 704/Cecil Wampler Rd and Crowe Dr. The Wal-Mart distribution center trips load directly onto Rt 257/Friedens Church Rd as their only routing option, while trips generated north of the distribution center load directly onto Crowe Dr at the terminus of the proposed connector roadway.

The TDM forecasts within the study area were reviewed to validate model volumes relative to actual traffic counts. As seen in **Table 6**, all collector and arterial class study area roadways are within acceptable calibration parameters as defined by the Virginia Travel Demand Modeling Policies and Procedures Manual Version 3.0, with the exception of Rt 704/Cecil Wampler Rd. Rt 704 experienced significant fluctuations in count volumes from 2015 to 2021, ranging from 3,500 to 5,700.

Table 6. Comparison of Daily Traffic Count Data to Daily Assigned Traffic in TDM

Route	2015 Weekday Daily Count	2015 Base Model Volume	Count vs. Model Difference	Acceptable Deviation
US-11/S Valley Pike (Rt 704 to Rt 257)	12,400	11,682	-5.8%	+/- 10-15%
Rt 257/Friedens Church Rd (US-11 to I-81)	12,000	10,933	-8.9%	+/- 10-15%
Rt 704/Cecil Wampler Rd (US-11 to Early Rd)	4,400	5,865	33.3%	+/- 20-25%
Rt 679/Pleasant Valley Rd (Greendale Rd to Harrisonburg SCL)	4,100	4,313	5.2%	+/- 20-25%
Rt 898/Pleasants Dr (Cecil Wampler Rd to Pleasant Valley Rd)	2,700	2,279	-15.6%	+/- 20-25%
Rt 988/Early Rd (Harrisonburg SCL to Cottontail Tr)	2,200	2,273	3.3%	+/- 20-25%

FORECASTING

2015 and 2045 forecast TDM volumes are compared in **Table 7**, with the growth rate provided. These volumes are provided only for the purpose of understanding the magnitude of traffic growth forecast in the model given changes in land use assumptions over time. Based on estimates by locality planning staff, the combined industrial area of the County

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and City is estimated to grow by ~2,000 jobs between 2015 and 2045, contributing to added trips in the study area and on the proposed connector roadway options.

Table 7. Growth in TDM Traffic Assignment from 2015 Base to 2046 Base Scenarios

Route	2015 Base Model Volume	2045 Base Model Volume	Annualized Growth Rate	Total Growth 2015-2045
US-11/S Valley Pike (Rt 704 to Rt 257)	11,682	17,535	2.0%	59.3%
Rt 257/Friedens Church Rd (US-11 to I-81)	10,933	14,493	1.5%	45.5%
Rt 704/Cecil Wampler Rd (US-11 to Early Rd)	5,865	9,784	0.8%	25.2%
Rt 679/Pleasant Valley Rd (Greendale Rd to Harrisonburg SCL)	4,313	7,556	2.2%	66.5%
Rt 898/Pleasants Dr (Cecil Wampler Rd to Pleasant Valley Rd)	2,279	3,669	3.0%	90.7%
Rt 988/Early Rd (Harrisonburg SCL to Cottontail Tr)	2,273	2,782	0.6%	18.5%

The measures of effectiveness (MOEs) selected for scenario comparison included:

- **Vehicle hours traveled (VHT):** VHT is a function of congestion delay, measuring the cumulative number of hours of travel on all roadways within the MPO area in a single day.
- **Vehicle miles traveled (VMT):** VMT is a function of both route efficiency and congestion delay, measuring the cumulative number of miles traveled on all roadways within the MPO area in a single day.
- **Forecast Traffic Volume on Route Alternatives:** Trips in the model are dynamically assigned to roadways to minimize travel time. Where congestion is heavy, vehicles may change routes and travel longer distances to avoid delays.

VHT and VMT per day were compared across model scenarios (**Table 8**), with the connector roadway options having minimal change on either measure. Referencing the HRMPO 2040 LRTP project prioritization using the previous 2040 TDM for comparison purposes, widening of US-11 from 2 to 4 lanes from I-81 in Harrisonburg to the South City Limits was found to reduce VHT by ~77 hours, while the widening I-81 through Harrisonburg was found to reduce VHT by ~5,000 hours.

Table 8. Comparison of HRMPO Region VHT and VMT Across Model Scenarios

Model Scenario	VHT	VHT vs. 2045 No Build	VMT	VMT vs. 2045 No Build
2015 Base Year	50,368	-	2,093,521	-
2045 No Build	72,231	-	2,827,160	-
2045 East Connector	72,197	-34	2,828,341	+1,181
2045 West Connector	72,261	+30	2,827,699	+539

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Table 9 summarizes the forecast traffic volume using the proposed connector roadway in 2045 based on land use assumptions presently assigned in the TDM. The connector roadway is forecast to attract approximately 1,700 trips with the East Option and approximately 1,800 trips with the West Option in the 2045 scenario. These totals constitute 17 to 18% of the forecast 2045 daily traffic on Cecil Wampler Rd (9,784 veh/day). This distribution closely aligns with the 2023 existing conditions finding that ~22% of traffic on Cecil Wampler Rd may stand to benefit from either connector roadway option under the conservative assumption that 100% of traffic destined for I-81 south of Exit 240, US-11 south of Rt 257, or Friedens Church Rd east of I-81 would use the new route.

Table 9. Estimated Weekday Traffic on Connector Roadway Options in 2045

Connector Roadway Alternative	Estimated Weekday Traffic in 2045	Connector Traffic as % of Forecast Traffic on Cecil Wampler Rd
East Option	~1,700 veh/day	17.2%
West Option	~1,800 veh/day	18.2%

These forecasts from the TDM were dissected using a ‘select link’ analysis to determine the origins and destinations of traffic using each connector roadway option, with the proportional distributions shown in **Table 10**. Nearly 100% of trips to and from Rt 257/Friedens Church Rd on the southern end of the study area are forecast by the model to use I-81 south of Exit 240. Very few, if any, trips in the model are attracted to use either connector roadway option to access US-11 south of Rt 257/Friedens Church Rd or I-81 Exit 243.

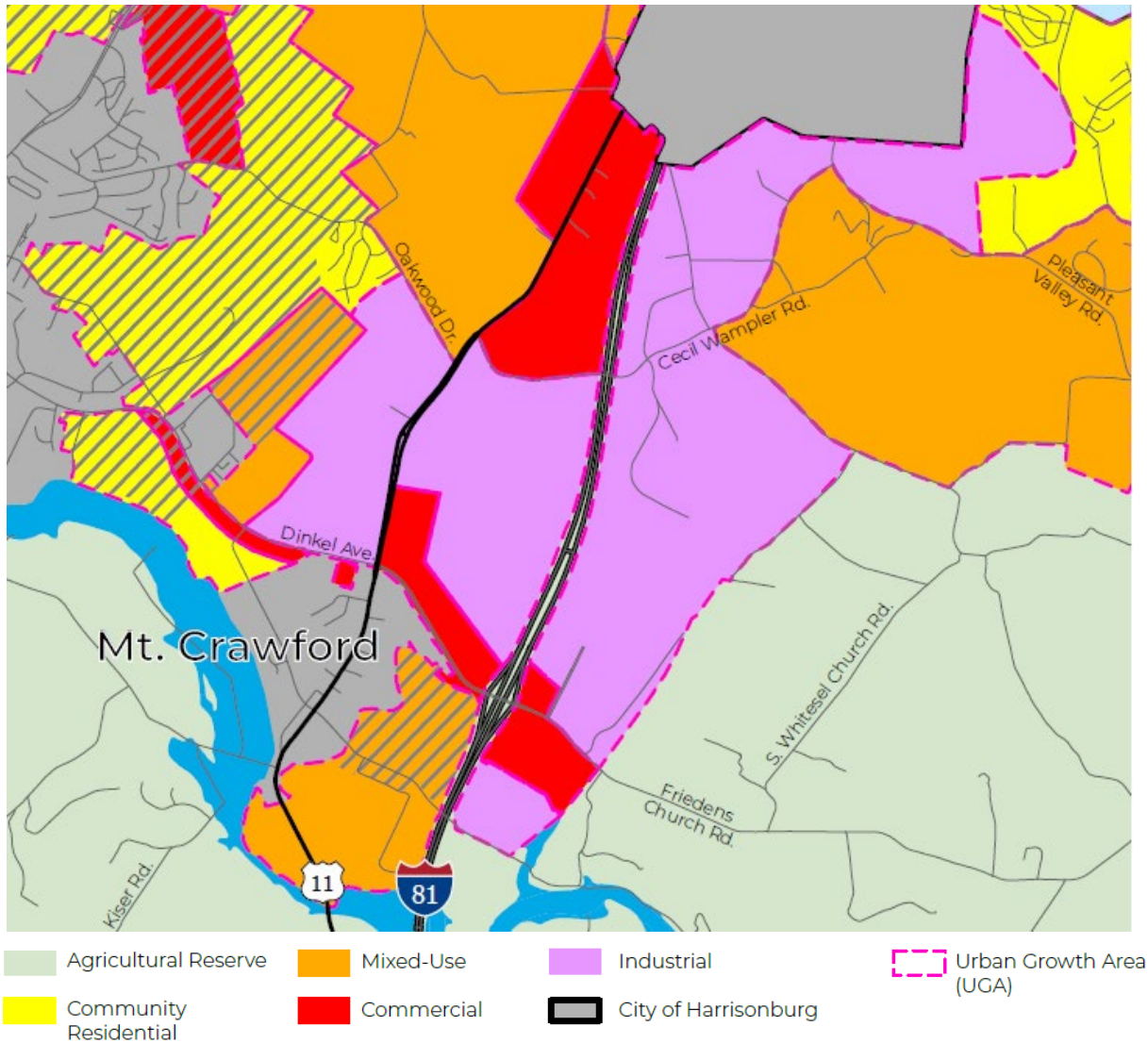
Table 10. Estimated Traffic Distributions to/from Rt 704/Cecil Wampler Rd Using Each Connector Roadway Option in 2045

Origin/Destination	East Option Distributions	West Option Distributions
County Industrial Area	38%	32%
City Industrial Area	25%	23%
Pleasant Valley Rd southeast of City	16%	15%
Osceola Springs Rd	13%	18%
Scholars Rd	9%	9%
Greendale Rd	2%	2%

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The conceptual land use map in the County’s draft Comprehensive Plan update indicates future commercial development between US-11 and I-81 on the north side of Rt 704/Cecil Wampler Rd and on the north side of Rt 257/Friedens Church Rd, as seen in **Figure 3**. The land area between those commercial areas is designated for future industrial use. The estimated 2045 travel demand on the west side connector roadway is subject to significant fluctuation depending on the timing and character of new development adjacent to the alignment.

Figure 3. Draft Conceptual Land Use Map, Rockingham County Comprehensive Plan



CONCLUSION

While a connector road east of I-81 beside the Wal-Mart distribution center could provide utility to current and future industrial users on Rt 704/Cecil Wampler Rd in the vicinity of Crowe Dr, the travel demand on the roadway would be almost exclusively limited to those users accessing I-81 south of Exit 240, or roughly 1,700 users per day in 2045. The potential value of the east option is also inhibited by the lack of available development space adjacent to Pleasant Run, limiting the possibility for the roadway to provide for interconnection of future land uses.

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Construction of a new connector roadway on the west side of I-81 is anticipated to attract roughly 1,800 users per day in 2045, a limited volume relative to adjacent collector roads, but is subject to fluctuate depending on land use development patterns. The route would, however, provide utility to the transportation network with contiguous interconnectivity between the anticipated mix of land uses to be developed west of I-81, thereby limiting the proliferation of development-specific entrances along US-11 and Rt 257/Friedens Church Rd. This roadway could be constructed in phases as development occurs, serving as a spine roadway in the short term and a contiguous connector roadway in the long term.

SUMMARY: RT 704 - RT 257 CONNECTOR ANALYSIS

| VDOT Staunton District Planning

March 2024

Purpose

To estimate travel demand effects of a
new connector roadway between

Rt 704 / Cecil Wampler Rd

and

Rt 257 / Friedens Church Rd



2023 Travel Time Estimates

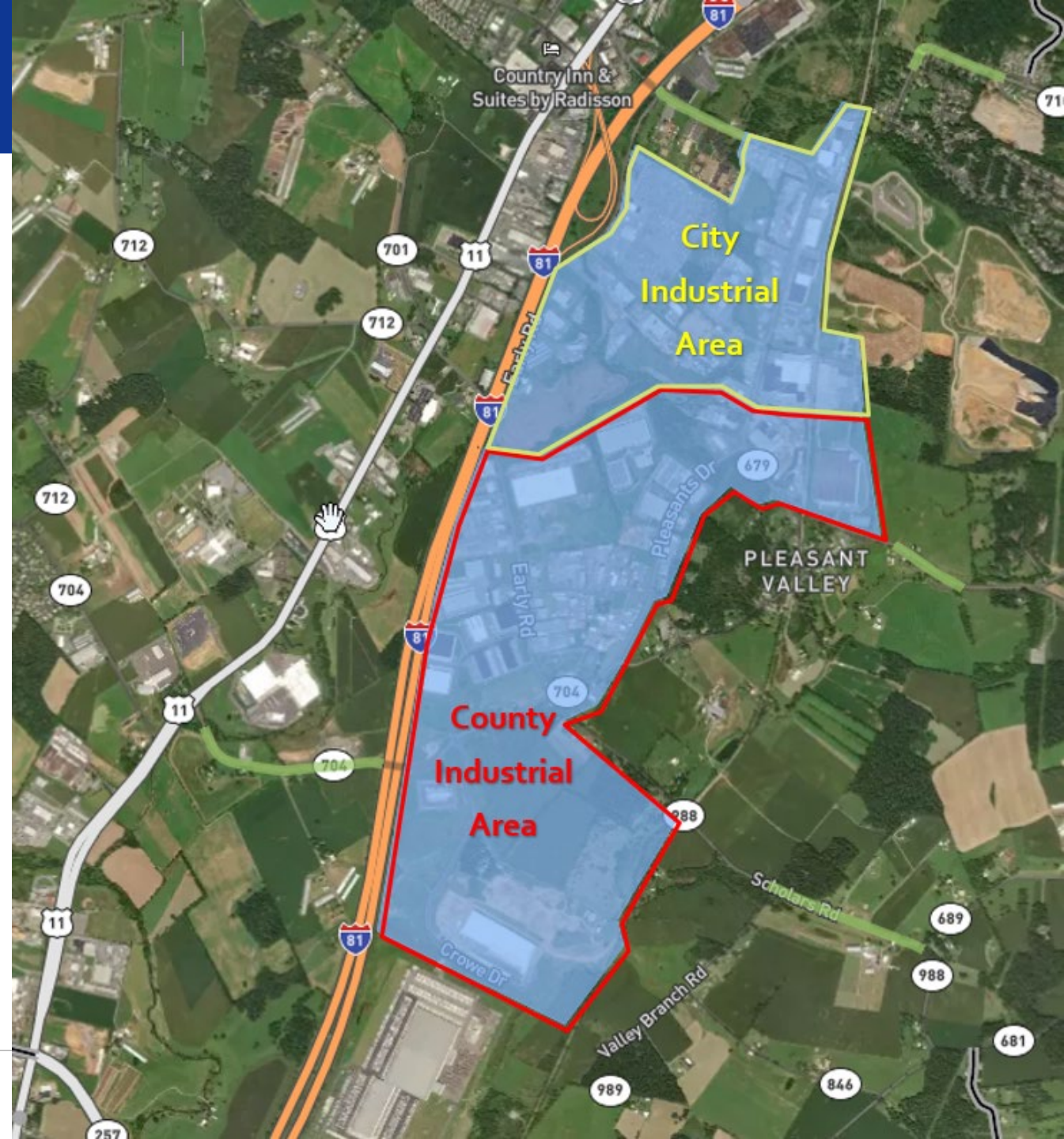
Table 2. Typical Travel Times for Route Options, Departing 4 PM on a Weekday in 2023 (Google Maps)

Route	Via Exit 240, Rts 704/11/ 257	Via Exit 243, Rts 679/11	Via Exit 240, Rts 704/988/ 681/682	Via Connector East of I-81	Via Connector West of I-81
Pleasant Valley Rd @ Pleasants Dr to I-81S South of Exit 240	8-10 min 4.2 miles	8-12 min 5.4 miles	12 min 5.6 miles	~8 min 3.6 miles	~7 min 3.6 miles
I-81N South of Exit 240 to Pleasant Valley Rd @ Pleasants Dr	8-12 min 4.3 miles	7-10 min 5.5 miles	10 min 5.5 miles	~8 min 3.5 miles	~8 min 3.7 miles
Early Rd @ Crowe Dr to I-81S South of Exit 240	6-9 min 3.5 miles	9-12 min 5.8 miles	12 min 5.0 miles	~7 min 2.9 miles	~6 min 2.9 miles
I-81N South of Exit 240 to Early Rd @ Crowe Dr	6-9 min 3.6 miles	8-12 min 5.8 miles	10 min 4.9 miles	~7 min 2.8 miles	~6 min 3.0 miles

Vehicle Travel Patterns

Table 3. Estimated O-D Route Share by City/County Origin Zone for All Vehicles

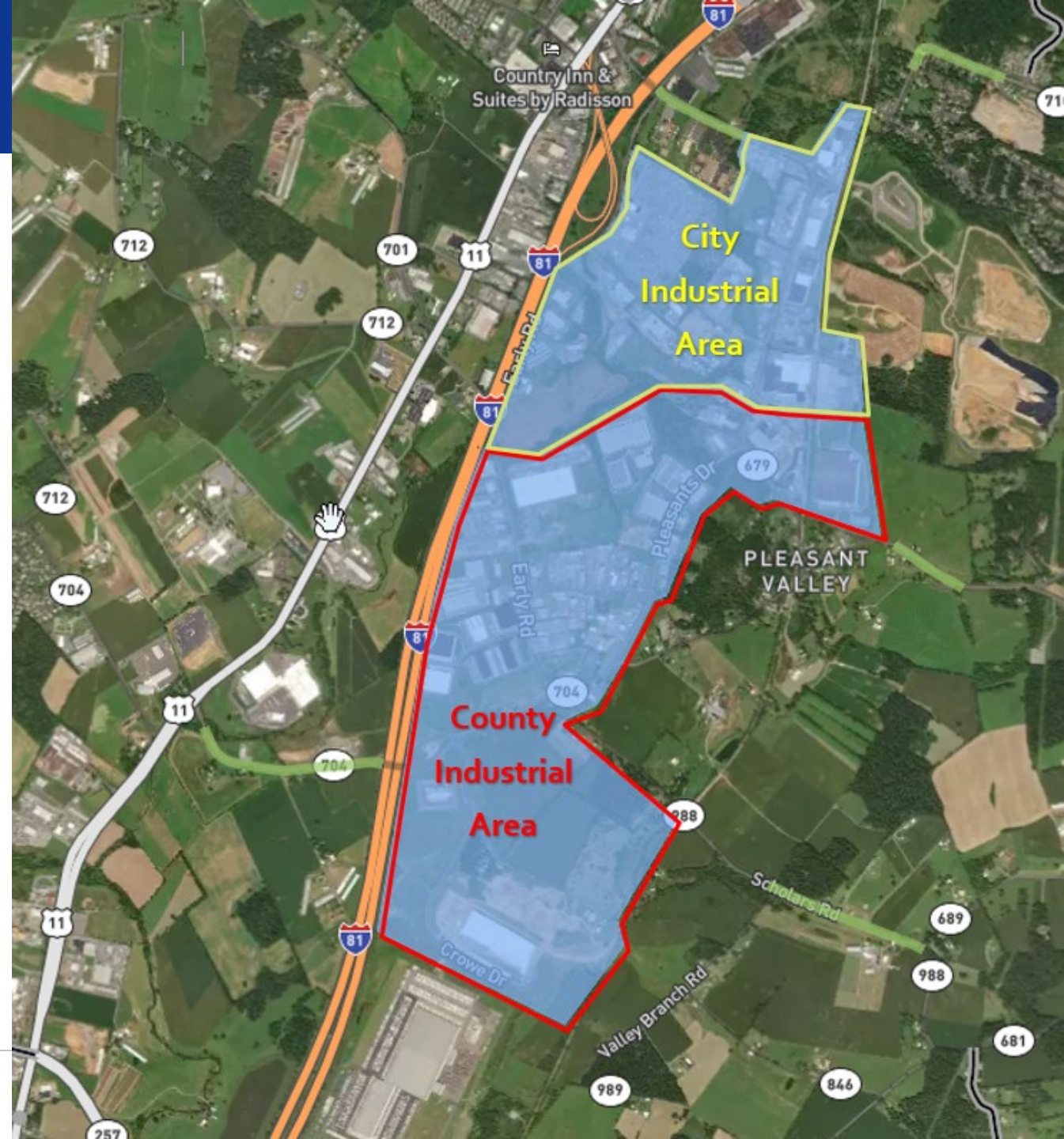
Destination	Origin by Locality From Pleasant Valley Industrial Area		
	County + City Industrial Area	County Industrial Area	City Industrial Area
US-11 North of Exit 243	24.2%	16.6%	30.8%
I-81 South of Exit 240	18.6%	25.6%	12.5%
I-81 North of Exit 243	14.3%	13.2%	15.3%
Rt 689/Spaders Church Rd	13.9%	14.8%	13.1%
Rt 710/Ridgedale Rd	10.7%	9.0%	12.2%
US-11 South of Exit 240	5.5%	8.4%	3.0%
Rt 257/Dinkel Ave	4.7%	3.7%	5.5%
Rt 679/Pleasant Valley Rd	3.7%	1.4%	5.7%
Rt 704/Osceola Springs Rd	2.9%	5.3%	0.8%
Ramblewood Rd	0.9%	0.8%	1.0%
Rt 988/Scholars Rd	0.5%	1.1%	0.1%
Rt 682/Friedens Church Rd	0.1%	0.1%	0.0%
% INDUSTRIAL TRIPS TO/FROM THE SOUTH (All Vehicles)	24.2%	34.1%	15.5%



Truck Travel Patterns

Table 4. Estimated O-D route share by City/County origin zone for heavy trucks

Destination	Origin by Locality From Pleasant Valley Industrial Area		
	County + City Industrial Area	County Industrial Area	City Industrial Area
I-81 South of Exit 240	48.1%	51.4%	45.7%
I-81 North of Exit 243	45.0%	40.2%	48.4%
US-11 North of Exit 243	3.6%	4.6%	2.9%
US-11 South of Exit 240	2.3%	1.9%	2.5%
Rt 257/Dinkel Avenue	0.4%	0.7%	0.2%
Rt 689/Spaders Church Road	0.3%	0.6%	0.1%
Rt 710/Ridgedale Road	0.2%	0.2%	0.1%
Rt 682/Friedens Church Road	0.1%	0.2%	0.0%
Rt 679/Pleasant Valley Road	0.1%	0.2%	0.0%
% INDUSTRIAL TRIPS TO/FROM THE SOUTH (Heavy Trucks)	50.5%	53.5%	48.2%



Traffic Distribution from Cecil Wampler Rd

Origin/Destination	Cecil Wampler Rd as Origin
Rt 704/Oakwood Dr	24.2%
Rt 257/Dinkel Ave	16.6%
Rt 689/Spaders Church Road	12.8%
US-11 South of Exit 240	11.2%
I-81 South of Exit 240	10.3%
Rt 710/Ridgedale Rd	5.4%
Rt 704/Osceola Springs Rd	5.7%
US-11 North of Exit 243	4.0%
I-81 North of Exit 243	3.5%
Rt 701/Pike Church Rd	1.3%
Rt 679/Pleasant Valley Rd (County)	1.9%
Pleasant Valley Rd (City)	0.7%
Rt 756/Liskey Rd	0.8%
Rt 988/Early Rd	0.4%
Rt 988/Scholars Rd	0.4%
Ramblewood Rd	0.3%
Rt 682/Friedens Church Rd	0.3%
Rt 710/Greendale Rd	0.3%
Rt 679/Pleasant Valley Rd	0.1%
% DISTRIBUTION TO/FROM THE SOUTH (All Vehicles)	21.8%

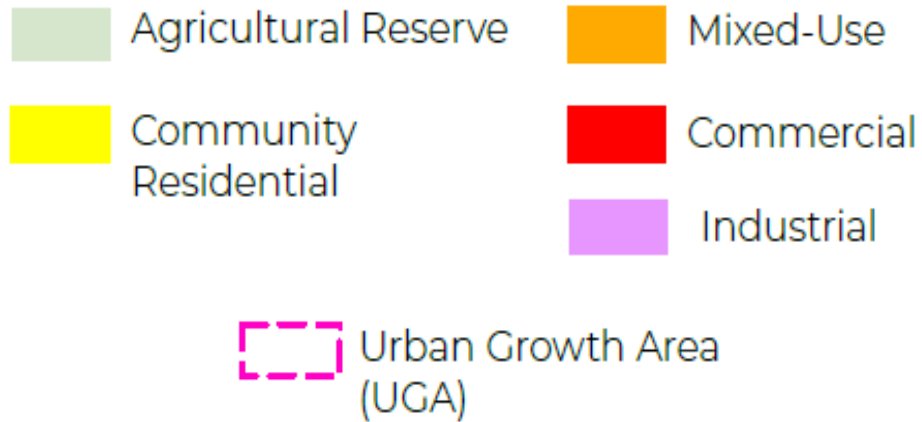
If put in place in 2023,
connector roadway is estimated to attract:

21.8% x 6,000 veh/day

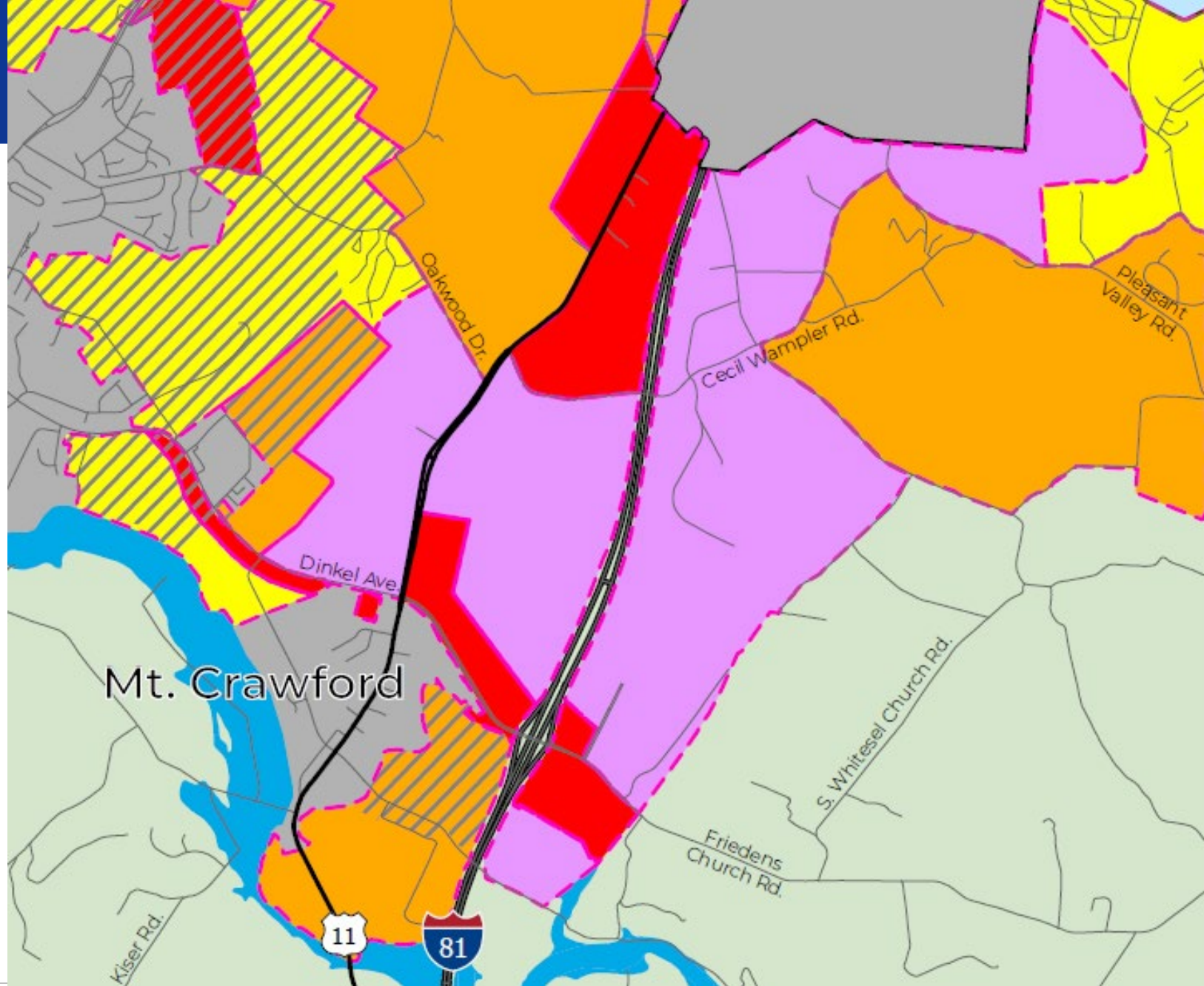
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~1,300 veh/day

Future Land Use



From 2015 – 2045,
City/County industrial area
is estimated to grow by
~2,000 jobs



Connector roadway in 2045

Route	2015 Base Model Volume	2045 Base Model Volume	Annualized Growth Rate	Total Growth 2015-2045
US-11/S Valley Pike (Rt 704 to Rt 257)	11,682	17,535	2.0%	59.3%
Rt 257/Friedens Church Rd (US-11 to I-81)	10,933	14,493	1.5%	45.5%
Rt 704/Cecil Wampler Rd (US-11 to Early Rd)	5,865	9,784	0.8%	25.2%
Rt 679/Pleasant Valley Rd (Greendale Rd to Harrisonburg SCL)	4,313	7,556	2.2%	66.5%

Connector Roadway Alternative	Estimated Weekday Traffic in 2045	Connector Traffic as % of Forecast Traffic on Cecil Wampler Rd
East Option	~1,700 veh/day	17.2%
West Option	~1,800 veh/day	18.2%

Who might use the new connection?

Origin/Destination	East Option Distributions	West Option Distributions
County Industrial Area	38%	32%
City Industrial Area	25%	23%
Pleasant Valley Rd southeast of City	16%	15%
Osceola Springs Rd	13%	18%
Scholars Rd	9%	9%
Greendale Rd	2%	2%

Recommendation

Western Connector

- Connects future developments
- Avoids Buc-ee's traffic
- Opportunity for phasing road CN
- Potential to reduce commercial entrances on US-11

