

MEMORANDUM

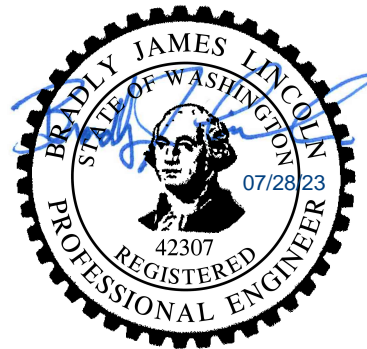
To: Jesse Hannahs, PE, City of Marysville

From: Brad Lincoln, PE

Subject: Kids N Us Traffic Analysis

Date: July 28, 2022

Project: 090222317



Kimley-Horn and Associates, Inc. has been retained to provide a traffic analysis for the Kids N Us development. The site is located in the northeast corner of Soper Hill Road at 87th Avenue NE. A site vicinity map is shown in **Figure 1**. Access to the site will be shared with the surrounding commercial uses, which are all part of the White Barn development area. The commercial area is proposed to have one access to 87th Avenue NE and one access to Soper Hill Road. The Kids N Us development is proposed to consist of a 12,100 square-foot (SF) day care center.

1. Trip Generation

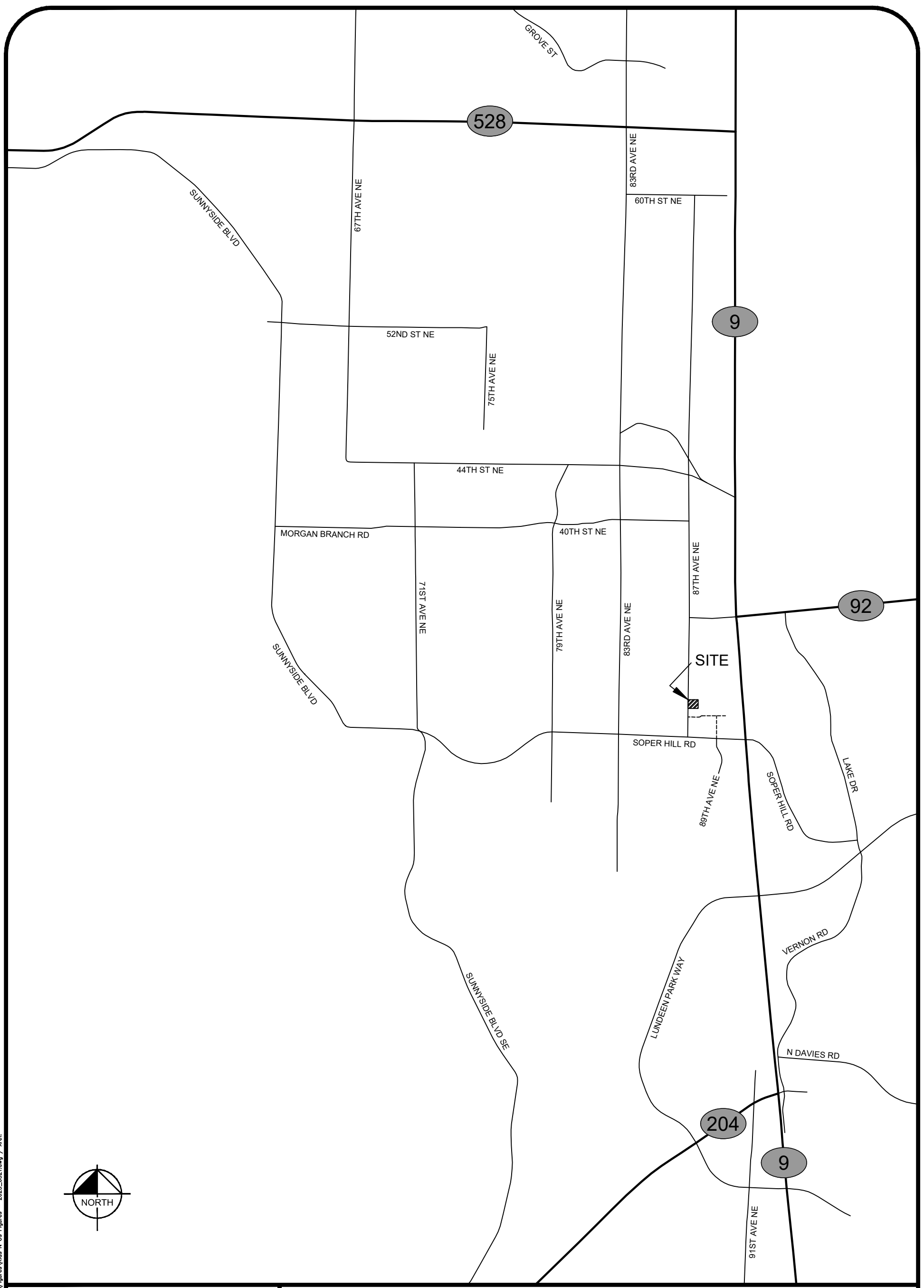
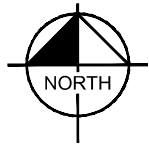
Trip generation calculations for the Kids N Us development have been performed using the Institute of Transportation Engineer’s (ITE) *Trip Generation Manual, 11th Edition (2021)*. The average rates for ITE Land Use Code 565, Day Care Center, have been used for the trip generation calculations. ITE also identifies a pass-by rate for this development use. The pass-by rate accounts for existing vehicles on the surrounding roadways that will use the site. Snohomish County publishes a pass-by rate of 75% for day care uses located along arterial roadways, which has been applied to the daily, AM and PM peak-hour trip generation calculations. The trip generation of the Kids N Us development is summarized in **Table 1**.

Table 1: Trip Generation Summary

ITE LUC 565 Day Care Center 12,100 SF	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Average Trip Rates	47.62 trips per 1,000 SF			11.00 trips per 1,000 SF			11.12 trips per 1,000 SF		
Splits	50%	50%	100%	53%	47%	100%	47%	53%	100%
Trips	72.03	72.02	144.05	17.63	15.64	33.27	15.81	17.83	33.64

The Kids N Us development is anticipated to generate approximately 144 new daily trips with approximately 33 new AM peak-hour trips and 34 new PM peak-hour trips after the pass-by reduction rate has been accounted for. The trip generation calculations are included in the attachments.

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 DEVELOPMENT SITE

FIGURE 1
SITE VICINITY MAP

KIDS N US

CITY OF MARYSVILLE



2. TRIP DISTRIBUTION

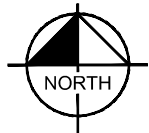
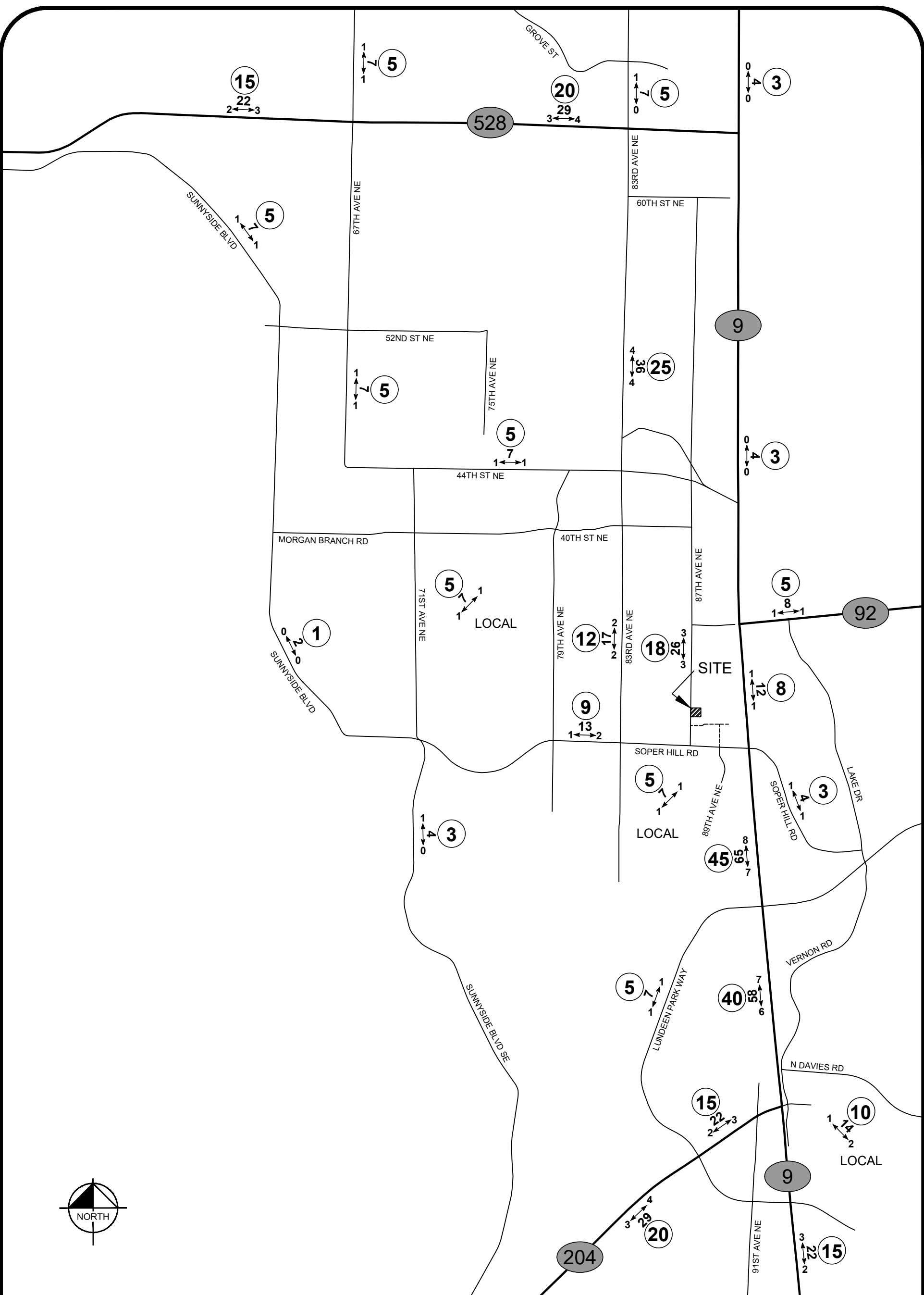
The trip distribution for the Kids N Us development is based on the City of Marysville Whiskey Ridge East area for the existing (opening) and horizon years. It is anticipated that 53% of the trips generated by the development will travel along SR-9, forty-five percent to and from the south and eight percent to and from the north. Approximately 12% of the trips generated by the development are anticipated to travel along Soper Hill Road, nine percent to and from the west and three percent to and from the east. It is estimated that 30% of the trips generated by the development will travel to and from the north, eighteen percent along 87th Avenue NE and twelve percent along 83rd Avenue NE. The remaining 5% of the trips generated by the development will travel to and from local areas in the site vicinity. It is important to note that there will be minor changes in the opening year and horizon year trip distributions due to future roadway changes. However, the overall trip distribution is not anticipated to change from the opening year to horizon year conditions.

Separate trip distributions for the 2024 opening year and 2030 horizon year have been prepared for the AM and PM peak-hours. The 2024 Opening Year distributions for the AM and PM peak-hours are shown in **Figure 2** and **Figure 3**, respectively. The 2030 Horizon Year distributions for the AM and PM peak-hours are shown in **Figure 4** and **Figure 5**, respectively.

3. STUDY INTERSECTIONS

The City of Marysville utilizes a threshold of 25 peak-hour trip to determine which intersections should be analyzed. It is anticipated that the only intersections that will be impacted by 25 PM peak-hour trips are the site accesses and 87th Avenue NE at Soper Hill Road. The frontage improvements as part of the overall site will improve Soper Hill Road and the mitigation fees for impacts to the intersection of 87th Avenue NE at Soper Hill Road are discussed later in this memorandum.

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KIDS N US

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- AWDT** NEW DAILY TRAFFIC
- AM←→PEAK** NEW PEAK-HOUR TRIPS
- XX** TRIP DISTRIBUTION %

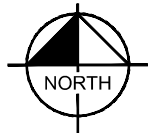
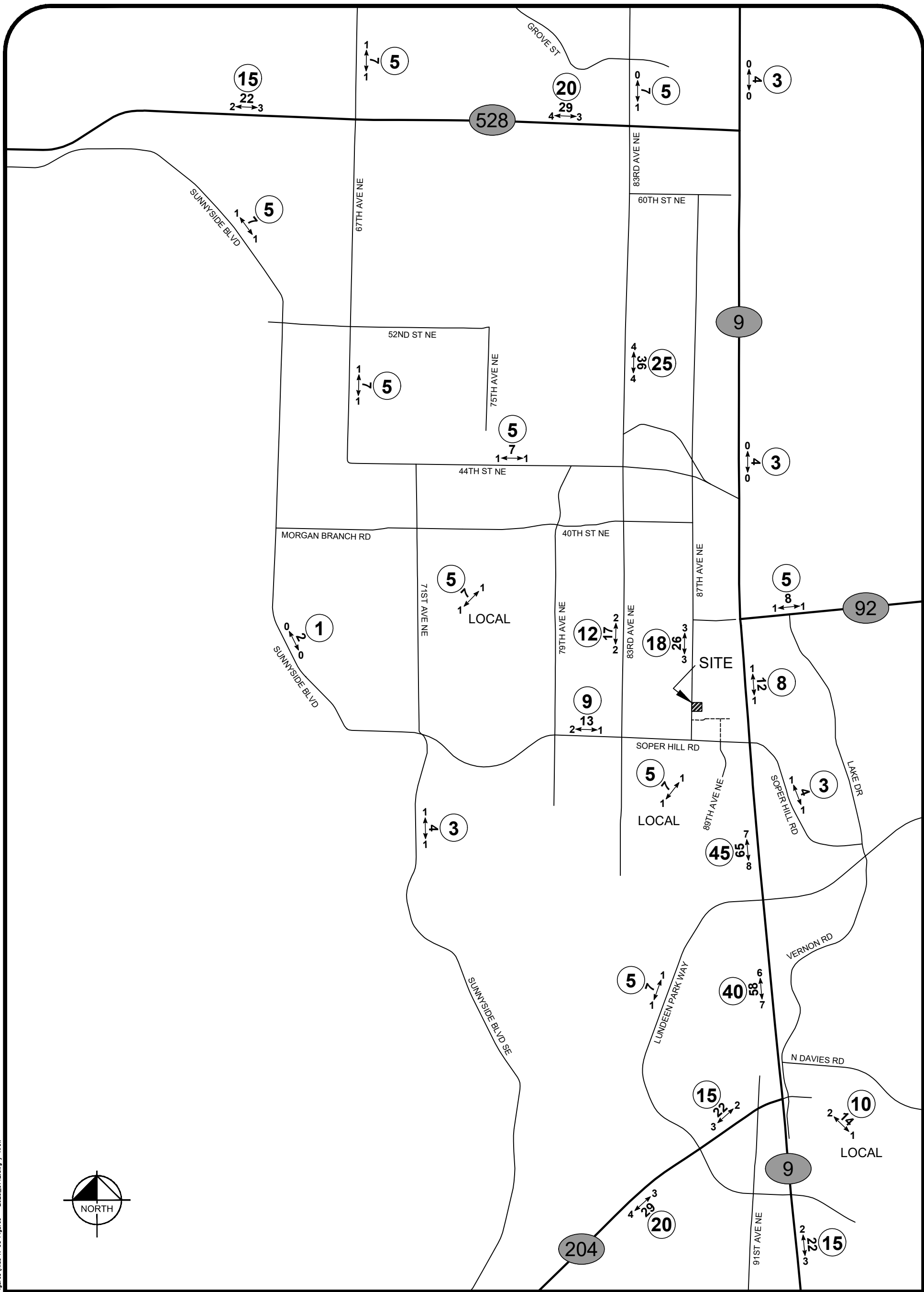
FIGURE 2

2024 OPENING YEAR
 TRIP DISTRIBUTION
 WEEKDAY AM PEAK-HOUR

CITY OF MARYSVILLE



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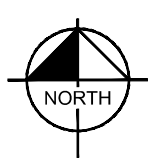
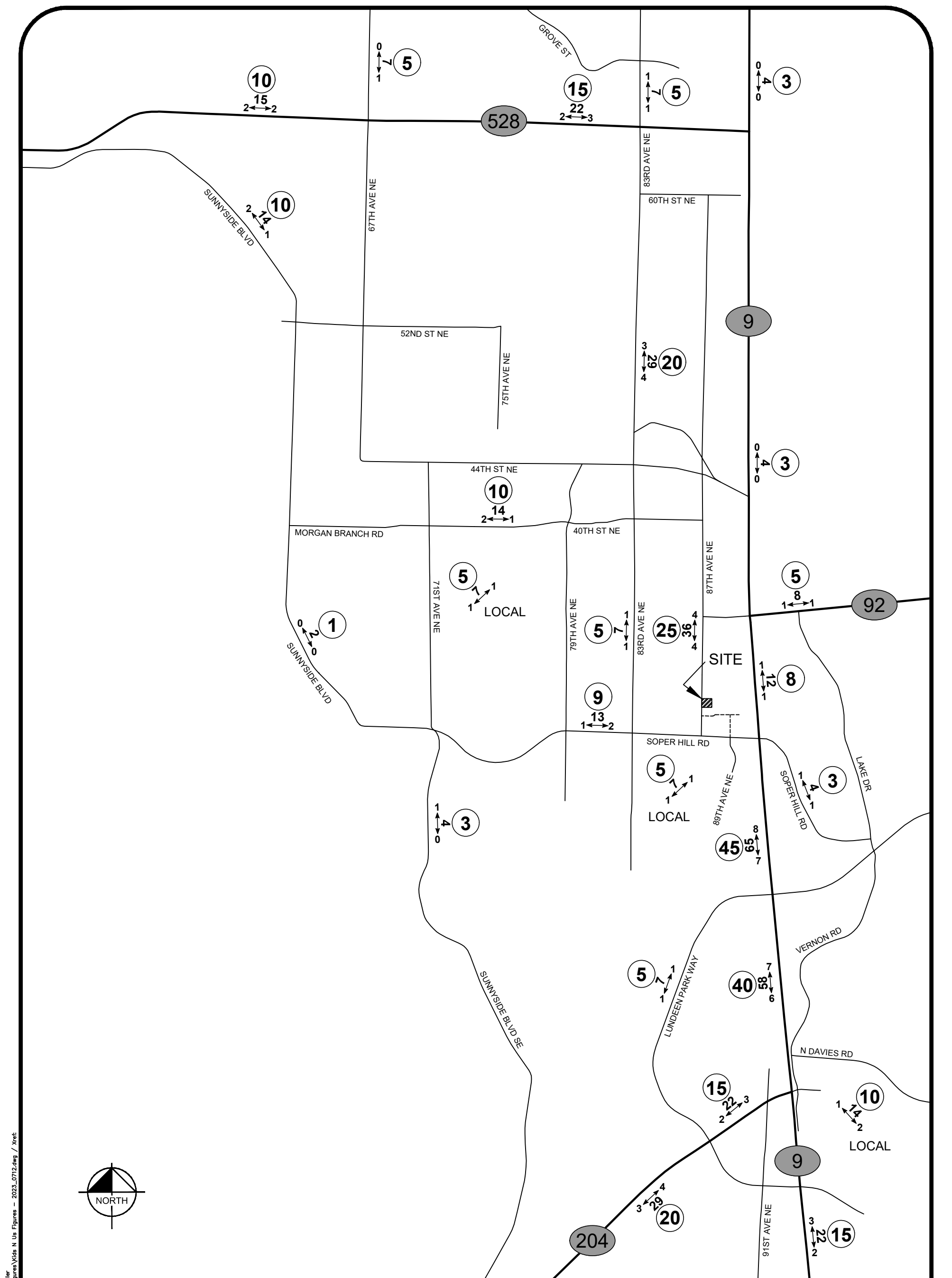
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- AWDT** NEW DAILY TRAFFIC
- PM ← → PEAK** NEW PEAK-HOUR TRIPS
- XX** TRIP DISTRIBUTION %

FIGURE 3
2024 OPENING YEAR
TRIP DISTRIBUTION
WEEKDAY PM PEAK-HOUR

KIDS N US

CITY OF MARYSVILLE



KIDS N US

LEGEND

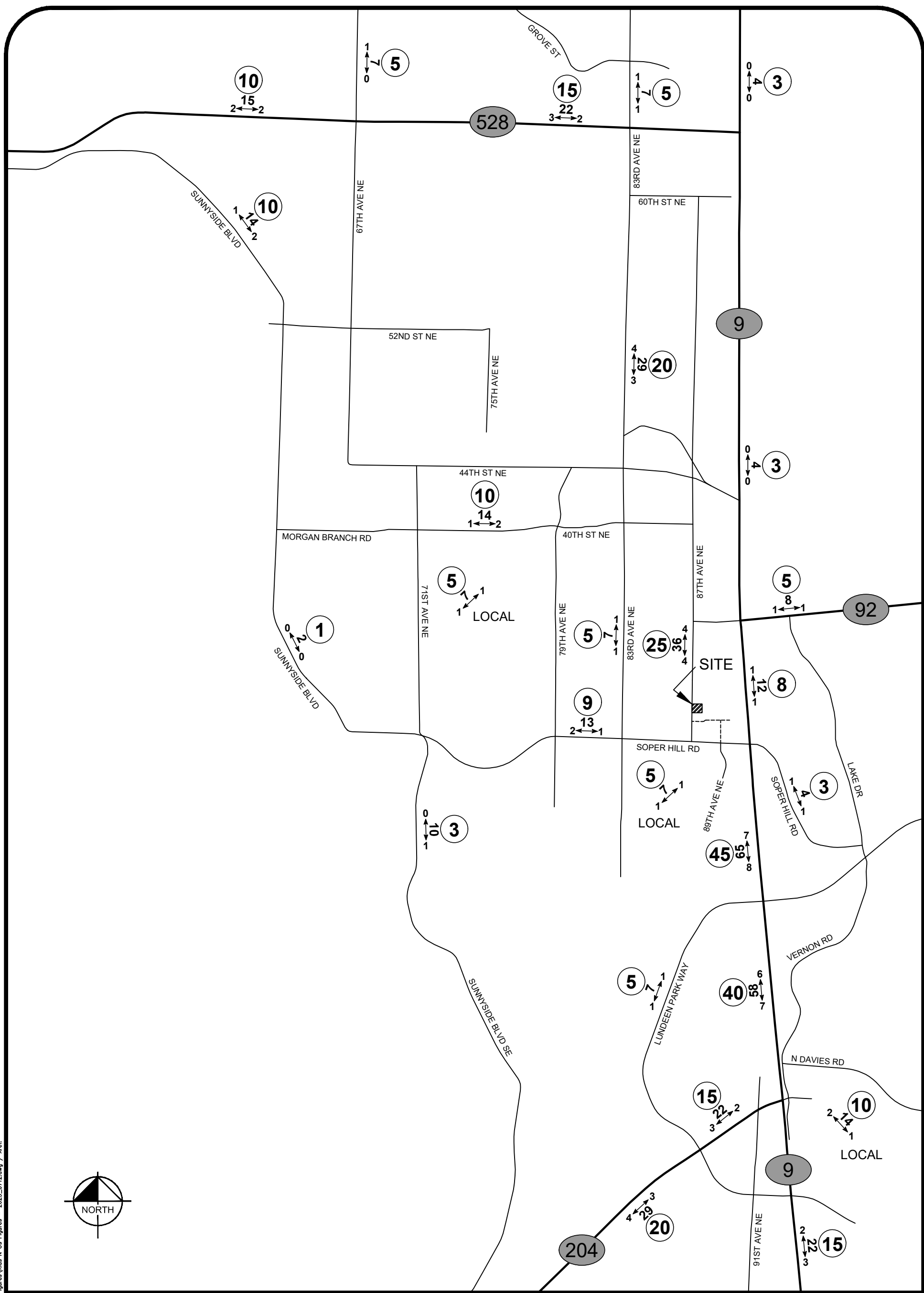
- AWDT** NEW DAILY TRAFFIC
- AM ← PEAK** NEW PEAK-HOUR TRIPS
- XX** TRIP DISTRIBUTION %

FIGURE 4
 2030 HORIZON YEAR
 TRIP DISTRIBUTION
 WEEKDAY AM PEAK-HOUR

CITY OF MARYSVILLE

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KIDS N US

LEGEND

- AWDT** NEW DAILY TRAFFIC
- PM** ← → **PEAK** NEW PEAK-HOUR TRIPS
- XX** TRIP DISTRIBUTION %

FIGURE 5
 2030 HORIZON YEAR
 TRIP DISTRIBUTION
 WEEKDAY PM PEAK-HOUR

CITY OF MARYSVILLE

4. TRAFFIC MITIGATION FEES

The City of Marysville has interlocal agreements with the City of Lake Stevens and Snohomish County with regards to traffic mitigation fees. The City of Marysville also has an understanding with WSDOT for the payment traffic mitigation fees.

4.1. City of Marysville

The City of Marysville standard traffic mitigation fees have been calculated using the commercial rate of \$2,220 per PM peak-hour trip. The Kids N Us development is expected to generate 33.64 new PM peak-hour trips which results in a total standard traffic mitigation fee of \$74,680.80.

4.2. City of Lake Stevens

The City of Marysville and the City of Lake Stevens have an interlocal agreement for the City of Marysville to collect fees to fund improvements to Soper Hill Road from SR-9 to 83rd Avenue NE. Construction of a new roundabout at 87th Avenue NE is located in the City of Lake Stevens and identified in the interlocal agreement. The 87th Avenue NE intersection has a fee of \$1,700.00 per PM peak-hour trip impacting the intersection. The 87th Avenue NE intersection is anticipated to be impacted by 19 PM peak-hour trips generated by the Kids N Us development due to the restricted access to Soper Hill Road. These trips result in a proportionate fee of \$32,300.00. It is important to note that these fees should not be required if another development has been conditioned to construct the 87th Avenue NE roundabout prior to when these fees would be due. Additionally, these funds are paid to the City of Marysville and not to the City of Lake Stevens.

4.3. Snohomish County

The City of Marysville and Snohomish County have an interlocal agreement that provides for the payment of traffic mitigation for impacts to Snohomish County roadways by City of Marysville developments. Traffic mitigation fees are based on predetermined area impacts or impacts to actual improvement projects. According to Section 3(a)2 of the *Snohomish County Traffic Worksheet and Traffic Study Requirements for Developments in the City of Marysville*, City of Marysville developments are only required to pay traffic mitigation fees for improvements in the Transportation Needs Report impacted with three directional peak-hour trips. The trip distribution shows there are not any Snohomish County improvement projects in the Transportation Needs Report that will be impacted by three directional PM peak-hour trips generated by the Kids N Us development. Payment of Snohomish County traffic mitigation fees should therefore not be a condition of the Kids N Us development.

4.4. Washington State Department of Transportation

WSDOT traffic mitigation fees are only required if improvements identified on the Exhibit C list are impacted by three directional PM peak-hour trips and if the improvement project has not already been completed or advertised for construction bid. There are not any WSDOT improvement projects on the Exhibit C list that will be impacted by three or more directional PM peak-hour trips generated by Kids N Us development. WSDOT traffic mitigation fees should therefore not be a condition of the Kids N Us development.

5. CONCLUSIONS

The Kids N Us development is proposed to consist of a 12,100 SF day care center. It is anticipated to generate approximately 144 new ADTs with approximately 33 new AM peak-hour trips and approximately 34 new PM peak-hour trips. The Kids N Us development is anticipated to result in less than three directional PM peak-hour trips to Snohomish County or WSDOT intersections or roadways. Snohomish County and WSDOT transportation impact fees should therefore not be required for the Kids N Us development. The development should only have to pay standard traffic mitigation fees of \$74,680.80 to the City of Marysville and proportionate share fees of \$32,300.00 to the 87th Avenue NE intersection improvements, assuming the improvements are not fully completed.

Attachments

Kids N Us
KH #090222317

**Trip Generation for: Weekday
(a.k.a.): Average Weekday Daily Trips (AWDT)**

		NET EXTERNAL TRIPS BY TYPE													
		IN BOTH DIRECTIONS					DIRECTIONAL ASSIGNMENTS								
LAND USES	ITE LU code	Gross Trips			Internal Crossover		TOTAL	PASS-BY		NEW		PASS-BY		NEW	
		Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In	Out	In	Out	
Day Care Center	VARIABLE 12.100 K SF 565	47.62	50%	50%	576.20	0%	0.00	576.20	75%	144.05	216.08	216.07	72.03	72.02	
Totals					576.20		0.00	576.20		144.05	216.08	216.07	72.03	72.02	

Kids N Us
KH #090222317

**Trip Generation for: Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 7 and 9 AM
(a.k.a.): Weekday AM Peak Hour**

LAND USES	ITE LU code	VARIABLE	Gross Trips				Internal Crossover		IN BOTH DIRECTIONS			NET EXTERNAL TRIPS BY TYPE										
			Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	TOTAL	PASS-BY		NEW	PASS-BY		NEW							
										In	Out		In	Out		In	Out					
Day Care Center	565	12.100 K SF	11.00	53%	47%	133.10	0%	0.00	In+Out (Total)	133.10	% of Ext. Trips	75%	In+Out (Total)	99.83	In	52.91	Out	46.92	In	17.63	Out	15.64
Totals						133.10	0.00	0.00	In+Out (Total)	133.10			In+Out (Total)	99.83	In	52.91	Out	46.92	In	17.63	Out	15.64

Kids N Us
KH #090222317

**Trip Generation for: Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 4 and 6 PM
(a.k.a.): Weekday PM Peak Hour**

LAND USES	ITE LU code	VARIABLE	Gross Trips					Internal Crossover			NET EXTERNAL TRIPS BY TYPE				
			Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	IN BOTH DIRECTIONS		DIRECTIONAL ASSIGNMENTS				
									TOTAL	PASS-BY	NEW	PASS-BY	NEW	In	Out
Day Care Center	565	12.100 K SF	11.12	47%	53%	134.55	0%	0.00	0.00	134.55	100.91	33.64	47.43	15.81	17.83
Totals						134.55		0.00	0.00	134.55	100.91	33.64	47.43	15.81	17.83