

Bicycle Level of Comfort (BLOC) Maps Methodology



Introduction: The Bicycle Level of Comfort (BLOC) Maps for the Erie County Regional Planning Commission (ERPC) Metropolitan Planning Organization (MPO) area were based off the Northeastern Ohio Areawide Coordinating Agency's (NOACA) Level of Comfort rating system, 2018.¹ ERPC's maps were created in November of 2020.

Background and Data: The ERPC MPO passed a *Bicycle and Pedestrian Plan Update* in 2020. The routes that were analyzed for the BLOC maps were gathered from that plan. It is noted that these routes were derived from a public input process. Each route was then broken into "like" segments (similar speed, land use etc.) and were then further evaluated analyzing the following when feasible:

Chart 1: Data Resources

| Data Name/Type | Resource Used |
|-----------------------|--|
| Average Daily Traffic | Ohio Department of Transportation, Transportation Information System |
| Centerline Presence | Erie County Auditor Office, AccuGlobe |
| Number of Lanes | Ohio Department of Transportation, Transportation Information System |
| Speed Limit | Erie County Auditor Office, AccuGlobe |

*Additionally, GoogleEarth aerial images were used as needed

Scoring process: The following charts (listed below) were then utilized after all available data had been gathered*. This data is listed within the ArcView software in the form of a database (see **Metadata** for more information):

¹ <https://www.noaca.org/regional-planning/transportation-planning/bicycle-pedestrian-planning/bike-maps>

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Table 1: Level of Traffic Stress for Roads With no Dedicated Bicycle Facility

| | | SPEED LIMIT (MPH) | | | | | | |
|---|-----------|-------------------|----|----|----|----|----|------|
| # LANES | ADT | ≤ 20 | 25 | 30 | 35 | 40 | 45 | ≥ 55 |
| 1-THRU LANE PER DIRECTION, 2-WAY STREET (NO CENTERLINE) | 0-750 | 1 | 1 | 2 | 2 | 3 | 3 | 3 |
| | 751-1500 | 1 | 1 | 2 | 3 | 3 | 3 | 4 |
| | 1501-3000 | 2 | 2 | 2 | 3 | 4 | 4 | 4 |
| | ≥ 3000 | 2 | 3 | 3 | 3 | 4 | 4 | 4 |
| 1 THRU LANE PER DIRECTION (1-WAY, 1-LANE STREET OR 2-WAY WITH CENTERLINE) | 0-750 | 1 | 1 | 2 | 2 | 3 | 3 | 3 |
| | 751-1500 | 2 | 2 | 2 | 3 | 3 | 3 | 4 |
| | 1501-3000 | 2 | 3 | 3 | 3 | 4 | 4 | 4 |
| | ≥ 3000 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| 2 THRU LANES IN AT LEAST ONE DIRECTION | 0-8000 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| | ≥ 8001 | 3 | 3 | 3 | 4 | 4 | 4 | 4 |
| 3 OR MORE THRU LANES IN AT LEAST ONE DIRECTION | Any | 3 | 3 | 4 | 4 | 4 | 4 | 4 |

Source: This table is based on the Level of Traffic Stress Criteria for Road Segments, Version 2.0, as published in June 2017 on <http://www.northeastern.edu/peter.furth/research/level-of-traffic-stress/>

**=if data was not available staff extrapolated data from adjoining facilities if they were similar in form and function*

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Table 2: Level of Stress Scoring for Roads With Bicycle Lanes and at Least Four Foot Shoulders

| # LANES | BIKE LANE WIDTH | SPEED LIMIT (MPH) | | | | | |
|--|-----------------|-------------------|----|----|----|----|-----|
| | | ≤ 25 | 30 | 35 | 40 | 45 | 50+ |
| 1 THRU LANE PER DIRECTION (WITH OR WITHOUT CENTERLINE) | ≥ 6 Feet | 1 | 2 | 2 | 3 | 3 | 3 |
| | 4-5 Feet | 2 | 2 | 2 | 3 | 3 | 4 |
| 2 THRU LANES IN AT LEAST ONE DIRECTION | ≥ 6 Feet | 2 | 2 | 2 | 3 | 3 | 3 |
| | 4-5 Feet | 2 | 2 | 2 | 3 | 3 | 4 |
| 3 OR MORE THRU LANES IN AT LEAST ONE DIRECTION | Any | 3 | 3 | 3 | 4 | 4 | 4 |

Source: Level of Traffic Stress Criteria for Road Segments, Version 2.0, public in June 2017 on <http://www.northeastern.edu/peter.furth/research/level-of-traffic-stress/>

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Tables 3 and 4: Level of Traffic Stress for Roads without ADT data

| # LANES | SPEED LIMIT | |
|-------------------------------|-------------|---|
| | 35 | ≥ 40 |
| 1 THRU LANE IN EACH DIRECTION | 3 | New Criteria: - Is the road a relatively short and not likely used for major through traffic? - Is the land use primarily residential or sparse agricultural? If the answers to the above are NO, LTS is 4. If yes, LTS is 3. |

| # LANES | SPEED LIMIT (MPH) | |
|---------------------------------------|-------------------|----|
| | ≤ 20 | 25 |
| 2 LANES, 2-WAY STREET (NO CENTERLINE) | 1 | 2 |
| 2 LANES, 2-WAY (WITH CENTERLINE) | 2 | 3 |

Score Assignment: After a score was assigned planning staff used ArcView software to show the corresponding Level of Comfort category. The following was used with the color of each category corresponding to the map:

Table 5: Level of Comfort Category Descriptions:

| | | | |
|----------|--|---|---|
| Score: 4 | Novice CHILDREN & BEGINNERS |  | Roads for all ages These roads tend to be neighborhood streets with low speeds and very little traffic. |
| Score: 3 | Casual MOST ADULTS |  | Roads for most adults These roads have low speeds and low traffic volumes. Most adults and supervised children will find these roads comfortable. |
| Score: 2 | Experienced CONFIDENT CYCLISTS |  | Roads for confident cyclists These roads have higher speeds (at least 35 MPH) with low traffic or may have lower speeds with higher amounts of traffic. |
| Score: 1 | Not Advisable EXPERTS ONLY |  | Roads for expert cyclists This is the greatest stress level. Roads intend to be multilane, higher speeds, and higher volume. |

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Further Evaluation and Questions: It is suggested that these maps be periodically reevaluated as road conditions and surrounding environments change. The categories listed are suggestions only and ERPC takes no responsibility for errors or omissions. Crash data was not analyzed. This document contains a general overview based on the factors identified; actual conditions could be better or worse than indicated based upon further review. Please ride carefully. For additional questions please contact:

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Map metadata:

Two maps were utilized during the rating process as available databases were incompatible in ArcView. Additionally, when applicable data was listed by whole numbers instead of ranges ex: Speed 10 MPH, would be 20 as it falls into the 5-20 MPH range.

Attribute Fields:

ID= Comfort Rating (urban only)

Route Name=Name listed within the ERPC Bicycle and Pedestrian Plan Update

ADT= (see below)

Centerline-Presence noted, or visible in aerial photographs

Speed= (see below)

Rating=Rating (rural only)

Speed Limit Ranges

5-20 MPH

21-25 MPH

26-30 MPH

31-35 MPH

36-40 MPH

41-45 MPH

46-50 MPH

51-55 MPH

56-65 MPH

Average Daily Traffic (ADT)

0-750

751-15,000

15,001-30,000

30,001-75,000