REQUEST FOR COMMISSION ACTION
CITY OF INDEPENDENCE
March 12, 2020

Department Police **Director Approval** *Jerry Harrison*

AGENDA ITEM Consider authorizing the placement of signs restricting parking to one side of Birch Street from 1st to Cement.

SUMMARY RECOMMENDATION Police department staff recommend a no-parking zone on the south side of Birch Street starting at 1st Street and going east to Wald. The no parking-zone will move to the north side of Birch going east from Wald on Birch to Topeka Street. From Topeka Street the no-parking zone will move to the south side of Birch going east to Cement.

BACKGROUND City staff received a parking complaint from a resident living on the 1000 block of E. Birch. The police department was asked to consider restricting on-street parking in the area.

A resident is complaining of traffic hazards created by vehicles parking on both sides of the street in the 1000 block of E. Birch. IPD staff surveyed the area and confirmed that only one vehicle at a time can travel through when cars are parked on both sides of the 700, 800, 900, and 1000 blocks of E. Birch. During the survey IPD staff located five different vehicles parking in manner that restricted travel to one lane. The survey was conducted at 3:10 pm. Staff estimates that after business hours traffic constriction increases.

City staff suggest alternating sides of the street with the no parking zone to accommodate residents that live across from a large vacant lot on the north side of the street. Another block has one house with a circle drive on the north side of the street while there are more houses with fewer parking opportunities on the south side of the street.

As measured on Pictometry the street is 25.7' wide in the 1000 block of E. Birch. The width of the street is too narrow to permit parallel, on-street parking on both sides. City Ordinance Sec. 102-116 Parking Restrictions on Narrow Streets gives the City Commission the authority to adopt parking restrictions on a case-by-case basis. The ordinance also specifies that the City has authority to restrict parking to one side of the street on streets that are 26 feet in width or less.

Following the National Association of City Transportation Officials (NACTO) Urban Street Design Guide lane width recommendations, parallel parking lanes should be 7-9 feet wide and travel lanes 10 feet wide. Parallel parking requires 14-18 feet of width for both sides of the street. This leaves 7.7-11.7 feet of lane-width for two directions of traffic. Restricting parking

on the south side of the street provides 16.7-18.7 feet of lane-width for two-way traffic. This will require the placement of at least ten "NO PARKING THIS SIDE OF STREET" signs.

BUDGET IMPACT $1,000

SUGGESTED MOTION I move that we authorize the placement of signs restricting parking to one side of Birch Street from 1st Street to Cement Street.

SUPPORTING DOCUMENTS

1. Map showing proposed changes
2. NACTO Urban Street Design Guide
3. City Ordinance Sec. 102-116
4. Picture of parking in the area


E Poplar St
E Poplar St
E Poplar St
E Poplar St
E Poplar St
E Poplar St
E Poplar St
S 1st St
S Wald St
Earl St
Topeka St
Valley St
Valley St
Cement St
NO PARKING THIS SIDE OF STREET
Birch St
Birch St
Birch St
Birch St
Birch St
Birch St
Birch St
S 1st St
Fountain St
Fountain St
S Wald St
Earl St
NO PARKING THIS SIDE OF STREET
NO PARKING THIS SIDE OF STREET
NO PARKING THIS SIDE OF STREET
Cement St
E Hill St
E Hill St
E Hill St
E Hill St
E Hill St
E Hill St
E Hill St
S 1st St

(https://nacto.org/)

MENU

National Association of City Transportation Officials (https://nacto.org/)

Urban Street Design Guide

Urban Street Design Guide

GUIDE NAVIGATION

(https://nacto.org/publication/urban-street-design-guide/)

PURCHASE GUIDE (HTTP://ISLANDPRESS.ORG/URBAN-STREET-DESIGN-GUIDE)

Lane Width

The width allocated to lanes for motorists, buses, trucks, bikes, and parked cars is a sensitive and crucial aspect of street design. Lane widths should be considered within the assemblage of a given street delineating space to serve all needs, including travel lanes, safety islands, bike lanes, and sidewalks.

Each lane width discussion should be informed by an understanding of the goals for traffic calming as well as making adequate space for larger vehicles, such as trucks and buses.

(https://nacto.org/wp-content/themes/sink_nacto/views/design-guides/retrofit/urban-street-design-guide/images/lane-width/lane-width-existing.png)

Existing

Existing

Redesign

Lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street's safety without impacting traffic operations.

(https://nacto.org/wp-content/themes/sink_nacto/views/design-guides/retrofit/urban-street-design-guide/images/lane-width/carousel//SFCTA.jpg)

Discussion

Travel lanes are striped to define the intended path of travel for vehicles along a corridor. Historically, wider travel lanes (11–13 feet) have been favored to create a more forgiving buffer to drivers, especially in high-speed environments where narrow lanes may feel uncomfortable or increase potential for side-swipe collisions.

Lane widths less than 12 feet have also historically been assumed to decrease traffic flow and capacity, a claim new research refutes.[1]

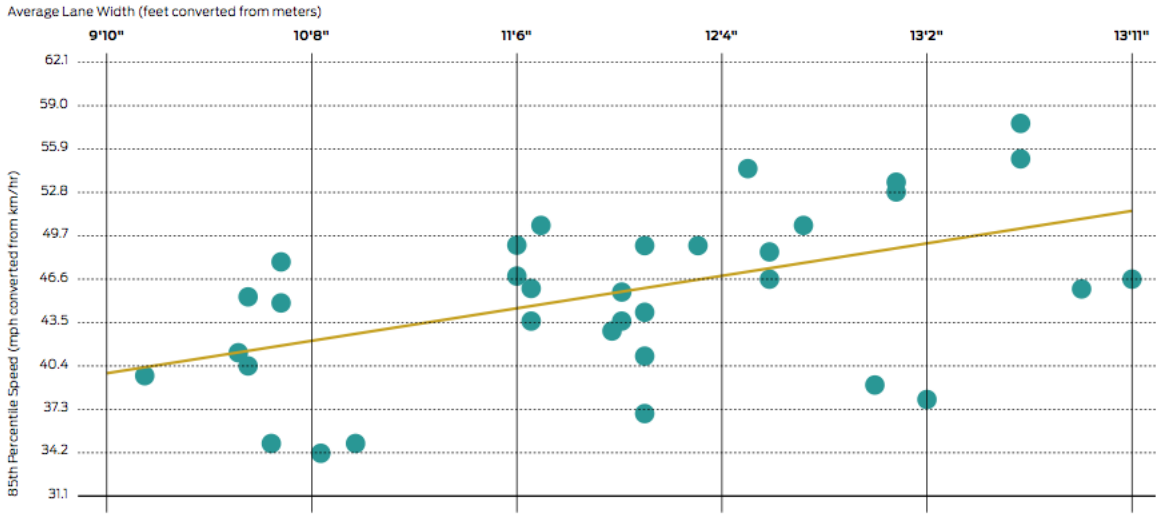
+ More Info

The measured saturation flow rates are similar for lane widths between 10 feet and 12 feet...Thus, so long as all other geometric and traffic signalization conditions remain constant, there is no measurable decrease in urban street capacity when through lane widths are narrowed from 12 feet to 10 feet.

Appendix A-P, p. A152, Florida Department of Transportation (2007). Appendix A-P and Appendix Q (/docs/usdg/conserve_by_bicycle_fl_dot.pdf). Conserve By Bicycle Program Study Final Report. Tallahassee, FL: FDOT.

The relationships between lane widths and vehicle speed is complicated by many factors, including time of day, the amount of traffic present, and even the age of the driver. Narrower streets help promote slower driving speeds which, in turn, reduce the severity of crashes. Narrower streets have other benefits as well, including reduced crossing distances, shorter signal cycles (../signal-cycle-lengths), less stormwater, and less construction material to build.

Wider travel lanes are correlated with higher vehicle speeds.



"As the width of the lane increased, the speed on the roadway increased... When lane widths are 1 m (3.3 ft) greater, speeds are predicted to be 15 km/h (9.4 mph) faster."

Chart source: Fitzpatrick, Kay, Paul Carlson, Marcus Brewer, and Mark Wooldridge. 2000. "Design Factors That Affect Driver Speed on Suburban Streets." *Transportation Research Record* 1751: 18–25.

(https://nacto.org/wp-content/themes/sink_nacto/views/design-guides/retrofit/urban-street-design-guide/images/lane-width/wider-travel-lanes-graph.png)Wider travel lanes are correlated with higher vehicle speeds.

For multi-lane roadways where transit or freight vehicles are present and require a wider travel lane, the wider lane should be the outside lane (curbside or next to parking). Inside lanes should continue to be designed at the minimum possible width. Major truck or transit routes through urban areas may require the use of wider lane widths.

Lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street's safety without impacting traffic operations. For designated truck or transit routes, one travel lane of 11 feet may be used in each direction. In select cases, narrower travel lanes (9–9.5 feet) can be effective as through lanes in conjunction with a turn lane.[2]

Optional

2 Parking lane widths of 7–9 feet are generally recommended. Cities are encouraged to demarcate the parking lane to indicate to drivers how close they are to parked cars. In certain cases, especially where loading and double parking are present, wide parking lanes (up to 15 feet) may be used. Wide parking lanes can serve multiple functions, including as industrial loading zones or as an interim space for bicyclists.

3 For multi-lane roadways where transit or freight vehicles are present and require a wider travel lane, the wider lane should be the outside lane (curbside or next to parking). Inside lanes should continue to be designed at the minimum possible width. Major truck or transit routes through urban areas may require the use of wider lane widths.

2-way streets with low or medium volumes of traffic may benefit from the use of a dashed center line with narrow lane widths or no center line at all. In such instances, a city may be able to allocate additional right-of-way to bicyclists or pedestrians, while permitting motorists to cross the center of the roadway when passing.

+ More Info

(https://nacto.org/wp-content/themes/sink_nacto/views/design-guides/retrofit/urban-street-design-guide/images/lane-width/carousel/driver_over_ctr_line.jpg)Location: Elmore, OH

Recommended

Lanes greater than 11 feet should not be used as they may cause unintended speeding and assume valuable right of way at the expense of other modes.

+ More Info

This includes the use of wide outside lanes for bicyclist accommodation. Wide outside lanes are not an effective means of accommodating bicyclists in urban areas.

Restrictive policies that favor the use of wider travel lanes have no place in constrained urban settings, where every foot counts. Research has shown that narrower lane widths can effectively manage speeds without decreasing safety, and that wider lanes do not correlate to safer streets.[3] Moreover, wider travel lanes also increase exposure and crossing distance for pedestrians at intersections and midblock crossings.[4]

See Crosswalks (../crosswalks-and-crossings/)

+ More Info

Many transit agencies require that jurisdictions stripe lanes of 12-14 feet for safe operation. These policies are counter to the municipality's larger safety goals and may result in speeding by when these lanes are not in use by transit vehicles.

Use striping to channelize traffic and demarcate the road for vulnerable users.

+ More Info


(https://nacto.org/wp-content/themes/sink_nacto/views/design-guides/retrofit/urban-street-design-guide/images/lane-width/carousel/SFCTA.jpg)Location: San Francisco, CA: Striping should be used to delineate parking and curbside uses from the travel lane.

1 Lane width should be considered within the overall assemblage of the street. Travel lane widths of 10 feet generally provide adequate safety in urban settings while discouraging speeding. Cities may choose to use 11-foot lanes on designated truck and bus routes (one 11-foot lane per direction) or adjacent to lanes in the opposing direction.

Additional lane width may also be necessary for receiving lanes at turning locations with tight curves, as vehicles take up more horizontal space at a curve than a straightaway.

See Corner Radii (../corner-radii)

Wide lanes and offsets to medians are not required, but may be beneficial and necessary from a safety point of view.

Footnotes

+ More Info

1. Theo Petrisch, “The Truth about Lane Widths,” The Pedestrian and Bicycle Information Center, accessed April 12, 2013, http://www.bicyclinginfo.org/library/details.cfm?id=4348 (http://www.bicyclinginfo.org/library/details.cfm?id=4348).
2. Research suggests that lane widths less than 12 feet on urban and suburban arterials do not increase crash frequencies.
   Ingrid Potts, Douglas W. Harwood, and Karen R. Richard, “Relationship of Lane Width to Safety on Urban and Suburban Arterials (/docs/usdg/lane_width_potts.pdf),” (paper presented at the TRB 86th Annual Meeting, Washington, D.C., January 21–25, 2007).

   Relationship Between Lane Width and Speed, (Washington, D.C.: Parsons Transportation Group, 2003), 1–6.
3. Eric Dumbaugh and Wenhao Li, “Designing for the Safety of Pedestrians, Cyclists, and Motorists in Urban Environments (/docs/usdg/designing_safety_of_ped_cyclists_and_motorists_dumbaugh.pdf).” Journal of the

American Planning Association 77 (2011): 70.

Previous research has shown various estimates of relationship between lane width and travel speed. One account estimated that each additional foot of lane width related to a 2.9 mph increase in driver speed.

Kay Fitzpatrick, Paul Carlson, Marcus Brewer, and Mark Wooldridge, “Design Factors That Affect Driver Speed on Suburban Arterials (/docs/usdg/design_factors_that_affect_driver_speed_fitzpatrick.pdf)": Transportation Research Record 1751 (2000):18–25.

Other references include:

Potts, Ingrid B., John F. Ringert, Douglas W. Harwood and Karin M. Bauer. Operational and Safety Effects of Right-Turn Deceleration Lanes on Urban and Suburban Arterials. Transportation Research Record: No 2023, 2007.
Macdonald, Elizabeth, Rebecca Sanders and Paul Supawanich. The Effects of Transportation Corridors’ Roadside Design Features on User Behavior and Safety, and Their Contributions to Health, Environmental Quality, and Community Economic Vitality: a Literature Review (/docs/usdg/effects_transportation_corridors_macdonald.pdf). UCTC Research Paper No. 878. 2008.

4. Longer crossing distances not only pose as a pedestrian barrier but also require longer traffic signal cycle times which may have an impact on general traffic circulation.

(https://nacto.org/publication/urban-street-design-guide/street-design-elements/) (https://nacto.org/publication/urban-street-

Street Design Elements

Sidewalks

design-guide/street-design-elements/sidewalks/)

References

(https://nacto.org/about/)

Designing Cities 2017: Chicago

(https://nacto.org/conference/designing-cities-conference-chicago-2017/)

Training and Workshops

(https://nacto.org/training-and-workshops/)

Urban Street Design Guide

(https://nacto.org/publication/urban-street-design-guide/)

Sec. 102-116. - Parking restrictions on narrow streets.

In order to ensure that all city streets and highways will have a minimum of 12 feet of clearance which is required for emergency vehicle use for public safety reasons, the governing body of the city shall have authority to restrict parking on streets and highways in the city pursuant to the guidelines set forth:

(1) On streets or highways that are 26 feet in width or less, measured curb to curb, the governing body may impose a parking restriction designating no parking on one side of the road or highway.

(2) On streets or highways that are less than 24 feet in width or less, measured curb to curb, the governing body may impose a parking restriction designating no parking on one side of the road or highway, or no parking on both sides of the street or highway.

The governing body of the city shall have authority to adopt parking restrictions on a case-by-case basis consistent with this ordinance.

To the extent that there may be provisions contained in the standard traffic ordinance published by the League of Kansas Municipalities and adopted by the city for use in municipal court prosecutions which are in conflict with this ordinance, (such as current sections 90 and 91), whether now in existence or as may be adopted in the future, then the provisions of this ordinance shall prevail and control.

(Ord. No. 4131, §§ 1—5, 9-13-12)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