

Traffic Management Analysis

26. Analyze which roads are more congested during the peak school hours and make recommendations for traffic diversion. (WHU)

Answer:

By integrating specific building locations, road connectivity, and the distribution of surrounding facilities, the following provides a detailed analysis of peak-hour traffic congestion at the Wuhan University Information Science Campus, along with corresponding diversion recommendations:

1. Key Congestion Areas Analysis

I. Qiushi 2nd Road — A Tidal Bottleneck in the Academic Core Area

- Concentration of Core Academic Resources: On its west side are the Teaching Building No. 4 and No. 3, while on its east side stands the School of Remote Sensing and Information Engineering (Teaching Building No. 5). During class-start and class-dismissal peak periods, large volumes of pedestrian traffic converge here.
- Road Cascade Effect: Qiushi 2nd Road connects northward to Qiushi Avenue, the main east – west arterial road. Due to limited road width and the possible presence of temporary roadside parking, severe pedestrian – vehicle mixing occurs.

II. Xinghu Road — Dual Pressure from Residential and Commercial Functions

- Overlay of High-Density Dining and Housing: This road is not only the primary access route to Canteen No. 4, but is also surrounded by dense dormitory clusters, including Student Dormitories 11, 12, 13, and 14. During meal times, large flows of students heading to the canteen overlap with food delivery vehicles, creating intense congestion.
- Commercial Facility Agglomeration Effect: A commercial cluster centered on the Information Science Campus CBD has formed along Xinghu Road, including popular establishments such as 7-Eleven and Guming. The mixture of commercial consumer traffic and through traffic makes this area prone to localized congestion, particularly during evenings and weekends.

2. Recommended Route Alternatives

I. Recommended Routes for Students:

- Proposed Solution: Students traveling between residential areas and academic zones are advised to avoid the heavily congested main roads of Qiushi 2nd Road and Xinghu Road, and instead use the pedestrian paths around the Cherry Blossom Garden and Star Lake.
- Advantages: This route functions as an almost straight diagonal shortcut, effectively shortening commuting distance. In addition, the natural landscapes of the Cherry Blossom Garden and Star Lake provide a more comfortable walking experience. By achieving pedestrian – vehicle separation, this option reduces pedestrian pressure on the main arterial roads at the source.

II. Recommended Routes for Faculty and Motor Vehicles: Use the Eastern Outer Ring

- Proposed Solution: Faculty members commuting by car, especially those heading toward the Gymnasium or Teaching and Laboratory Buildings, are advised to prioritize entering and exiting the campus via Huigui Road on the eastern side.
- Advantages: Huigui Road is located along the campus periphery, adjacent to the Wuhan University Information Science Campus Gymnasium and forested areas, and bypasses high-density living cores such as Canteen No. 4 and the CBD. Using this route to access faculty parking areas effectively avoids peak student class-change flows and reduces the risk of pedestrian – vehicle conflicts.

27. Suppose I am a visitor from another school to visit this school. Please help me plan my itinerary for the day. (WUH)

Answer:

Here is an expanded itinerary for your visit to the Information Faculty campus, incorporating specific details from the campus map data to enhance your plan while keeping the original schedule intact.

1. Morning Schedule (9:00 - 12:00): Academic Landmarks and History

Start your day at the iconic Information Faculty No. 1 Teaching Building, a central landmark on campus. From there, explore the surrounding academic hub by visiting the adjacent No. 2 Teaching Building and No. 3 Teaching Building (Department of Printing and Packaging). Afterward, proceed to the Surveying Instrument Museum located near the School of Geodesy and Geomatics. While exploring this area, make sure to visit the artistic tributes to the university's academic pioneers; look for the busts of prominent academicians, including Ye Xuean, Xia Jianbai, and Chen Yongling, which honor their significant contributions to the field.

2. Lunch Time (12:00 - 13:30): Dining

For lunch, make your way to the Information Faculty Canteen No. 4. As a massive facility covering over 6,300 square meters, it serves as the main dining spot for faculty and students, offering a vibrant atmosphere to enjoy a meal.

3. Afternoon Schedule (13:30 - 17:00): Research, Nature, and Recreation

Begin your afternoon with a visit to the Wuhan University Library (Information Branch) and the prestigious State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, which are hubs of cutting-edge research. Then, unwind by taking a scenic walk along the water at Xinghu Lake and strolling through the Cherry Blossom Garden, a particularly lovely area for nature appreciation. Continue your walk through the expansive Starry Sky Plaza (Xingkong Square) for a brief rest. Finally, conclude your tour at the campus sports zone, which features the Information Faculty Gymnasium, the large Sports Field, and other facilities like the Table Tennis Hall.

28. I want to walk from Building 29 to the Youth Building. Please help me plan multiple routes based on the layout of the campus. (WHU)

Answer:

Based on the campus map data you provided, I have planned a detailed walking route from Building 29 to the Youth Building. Both buildings are located within the core residential area of the Wuhan University Information Science Campus. Although the straight-line distance is short, the presence of intervening building clusters and green belts means that different route choices offer different walking experiences.

Below is the route guide expanded using specific geographic information from the map:

- Starting Point: Building 29. Located on the northwestern side of the dormitory area, adjacent to Building 34 and Building 27.
- Destination: Youth Building. Located on the northeastern side of the dormitory area, adjacent to Building 40 and Building 44, with Xinghu Garden Guesthouse immediately to its south.

Route Option 1: Yulan Road Direct Route

This route mainly follows Yulan Road, a major arterial road in the northern part of the campus. The road is straight and passes multiple dormitory buildings, making it easy to follow.

1. Departure:

- Exit Building 29 and walk a short distance northward. After passing Building 34, you will merge onto Yulan Road (an east–west main road).

2. Straight Walk:

- Proceed eastward along Yulan Road. You will pass a row of dormitory buildings on the north side, including Buildings 32, 31, and 33. Continue eastward, passing Building 39.
- Tip: Near Building 39, if you need to purchase postgraduate exam preparation materials, the Qianlima Postgraduate Bookstore is located a short distance to the north.

3. Turn and Arrival:

- Continue along Yulan Road toward its end, where you will see Building 41 and Building 45.
- The Youth Building is located on the south side of the road (right-hand side), immediately adjacent to Building 41.

Route Highlights: This route passes through the main dormitory living area. The road is wide and well-lit at night, making it suitable for returning from evening study sessions or when in a hurry.

Route Option 2: Xinghu Garden Leisure Route

This route detours slightly southward, passing through the Xingkong Plaza area and moving past dining and accommodation facilities, offering a stronger sense of campus life.

1. Departure:

- From Building 29, avoid the northern main road and instead head south through the small paths between dormitory buildings.
- You will pass near Building 27 and Building 26.

2. Passing the Plaza: Arrive at the Xingkong Plaza area.

- The view here is more open, with the International Exchange Center located on the eastern side.

3. Turning onto Qiushi Avenue: Proceed northeastward along Qiushi Avenue.

- On your right-hand side (south side), you will pass the Xinghu Garden Faculty Canteen, making it convenient to stop for a meal during dining hours.
- Shortly afterward, you will pass the Xinghu Garden Guesthouse and the Gemini Zhenpin Hui Supermarket.

4. Arrival:

- After passing the Xinghu Garden Guesthouse, adjust your direction slightly northward and pass near Building 40 to reach the Youth Building.

Route Highlights: The environment is relatively quiet with good greenery. Along the way, there are supermarkets and canteens, making this route suitable for leisurely walks or handling daily errands (such as shopping or dining).

Summary

- Distance: Both routes are approximately 400–500 meters in total length.
- Time: About 6–8 minutes on foot.

29. Identify the roads that the bus should travel on to connect stops at (114.352010, 30.533746) and (114.355084, 30.529054), ensuring efficient student access. (WHU)

Answer:

Based on the campus geographic data, here is the expanded route plan with specific details on landmarks and facilities:

Start: (114.352010, 30.533746) – Located in the northern residential area, this point is strategically situated near Dormitory Buildings 29, 51, and 53, serving a high density of students. End: (114.355084, 30.529054) – Situated in the southern academic district, this stop provides immediate access to key educational facilities such as the Information Faculty No. 1 Teaching Building and the Printing and Packaging Department (No. 3 Teaching Building).

Recommended Route from North to South:

I. Start on Yulan Road: Begin by heading East along Yulan Road. This segment collects passengers from the northern dormitory cluster and passes key landmarks such as the International Exchange Center.

II. Turn onto Wutan Road: Turn South onto Wutan Road. This road serves as a vital connector, transitioning the route from the residential northern sector past Dormitory Buildings 14 and 17 towards the central campus.

III. Turn onto Qiushi 2nd Road: Continue South by merging onto Qiushi 2nd Road. This main artery leads directly into the academic core, terminating near the teaching buildings and research centers.

This route is optimal because:

- I. High Student Accessibility: It directly passes key student facilities, including the high-density northern dormitories (e.g., 29, 51) and the International Exchange Center, ensuring maximum ridership.
- II. Infrastructure Suitability: It follows established residential connectors like Yulan Road and Qiushi 2nd Road, which are structured to handle campus vehicular traffic.
- III. Strategic Connectivity: It provides a direct and logical link between the "living zones" (Dorms) in the north and the "learning zones" (Teaching Buildings 1 & 3) in the south.
- IV. Operational Efficiency: The route geometry minimizes complex maneuvers, utilizing straightforward, major campus roads to ensure safe and smooth bus navigation.

30. I need route planning from the Sycamore Tree dormitory to the School of Chemistry and Environmental Engineering (B1). Please provide me with two options: one suitable for walking and the other suitable for riding an electric scooter. (SZU)

Based on the campus map data, here are two route options from the Sycamore Tree dormitory to the School of Chemistry and Environmental Engineering (B1).

Option 1: The "Campus Core" Route (Walking)

Best for: Shortcuts, avoiding traffic, and passing central landmarks.

- Estimated Distance: ~850 - 950 meters
- Estimated Time: 10 - 12 minutes

- 1. Start:** Exit the Phoenix Tree (Wutongshu) dormitory.
- 2. Head Southeast:** Walk past the Zhikuai Gymnasium, which is located just east of your dormitory.
- 3. Central Path:** Use the central pedestrian pathways (Footway 1272389352) heading East. You will pass the large Qiming Building (Library) on your left (North) and the Zhichang Gymnasium (C3) on your right (South).
- 4. Arrival:** Continue straight towards the eastern cluster of buildings. The School of Chemistry and Environmental Engineering (B1) is the southern building in this academic block, located near the Material Science School (B2).

Option 2: The "Main Road" Route (Electric Scooter)

Best for: Smooth pavement, avoiding stairs/footpaths, and higher speed.

- Estimated Distance: ~1.1 km
- Estimated Time: 3 - 5 minutes

- 1. Start:** From Phoenix Tree, get onto Weicai Road.
- 2. Ride South:** Follow Weicai Road south until you reach the intersection with Weipin Road.
- 3. Turn East (Left):** Turn left onto Weipin Road. Follow this road as it connects the west side of campus to the east, passing the Caiwei canteen area.
- 4. Connect to Weixin Road:** Continue as the road transitions or connects toward Weixin Road in the eastern sector.
- 5. Arrival:** Follow Weixin Road north-east. It winds directly past the School of Chemistry and Environmental Engineering (B1).