Traffic Management in Wuhan, China
Learning to Solve Complex Technical and Institutional Problems to Improve Traffic Flow in Cities

DEVELOPMENT CHALLENGE

With an increasing number of cars on the roads, traffic congestion had become a pressing issue in Wuhan. Infrastructure investment became a major priority, focusing not only on congestion mitigation, but the impact on economic growth.

DELIVERY CHALLENGES AND HOW PRACTITIONERS RESPONDED

The Wuhan city government was confronted with a variety of complicated delivery challenges, including the intersection of institutional and technical issues.

This included the need to coordinate the actions of municipal agencies with oversight over specific aspects of traffic planning, road construction, and pedestrian safety, and increasing the understanding of key design features such as intersection channelization among traffic planners and other decision makers. The city government had to develop area traffic control systems that were customized to local conditions.

Complex traffic systems were used to change motorist behavior and traffic flow, and many technical changes had significant behavioral impacts, including area traffic control and intersection channelization. Planners made the best of budget constraints by installing area traffic control systems piecemeal, which allowed them to effectively pilot new systems and learn from each iteration.

The city worked with local universities and businesses to build analytical capacity, strengthened the transportation management board, and built political ownership. Ultimately, motorist behavior and traffic flow changed: speed improved by 11%, delays were reduced 28%, and vehicles made 19% fewer stops.

LESSONS FROM THE CASE STUDY

• For best results, traffic management planning should occur in conjunction with construction planning.
• Development of local technical capacity is important for creating customized solutions to local conditions, while foreign assistance can be useful in capturing the benefits of international experience.
• A modern area traffic control system can improve traffic flows at major intersections by synchronizing the traffic lights at the intersections, based on their real-time traffic flows, to minimize the overall waiting time.
• Intersection channelization can facilitate the safe and orderly movements of both vehicles and pedestrians by separating conflicting traffic movements into definite paths of travel, using pavement markings or traffic islands.

HOW THE CASE STUDY WAS USED

Wuhan's experience with piloting changes in one district, then scaling up across the city, shows the importance of collecting evidence and adaptively implementing. Ongoing growth, construction, and motorization means that transportation management in Wuhan will likely continue to adapt and evolve.