

OUR CITY OF MADISON



Traffic Engineering Introduction

Yang Tao, PhD, PE, City Traffic Engineer

Vision and Mission

Inclusive – Innovative – Thriving



CITY OF MADISON

Our Agency's Vision and Mission

Vision

To provide safe and efficient movement of people and goods in an equitable and sustainable manner

Mission

To provide the highest quality service for the common good of our residents and visitors

Structure, Services, and Staff



Structure: Office & Field Operations

Traffic Engineering (TE) Office:

Madison Municipal Building,
215 MLK Jr. Blvd, Suite 109

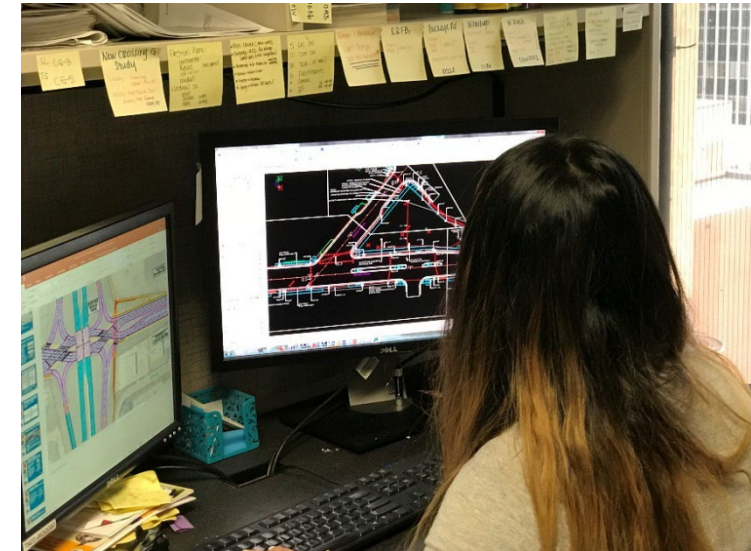
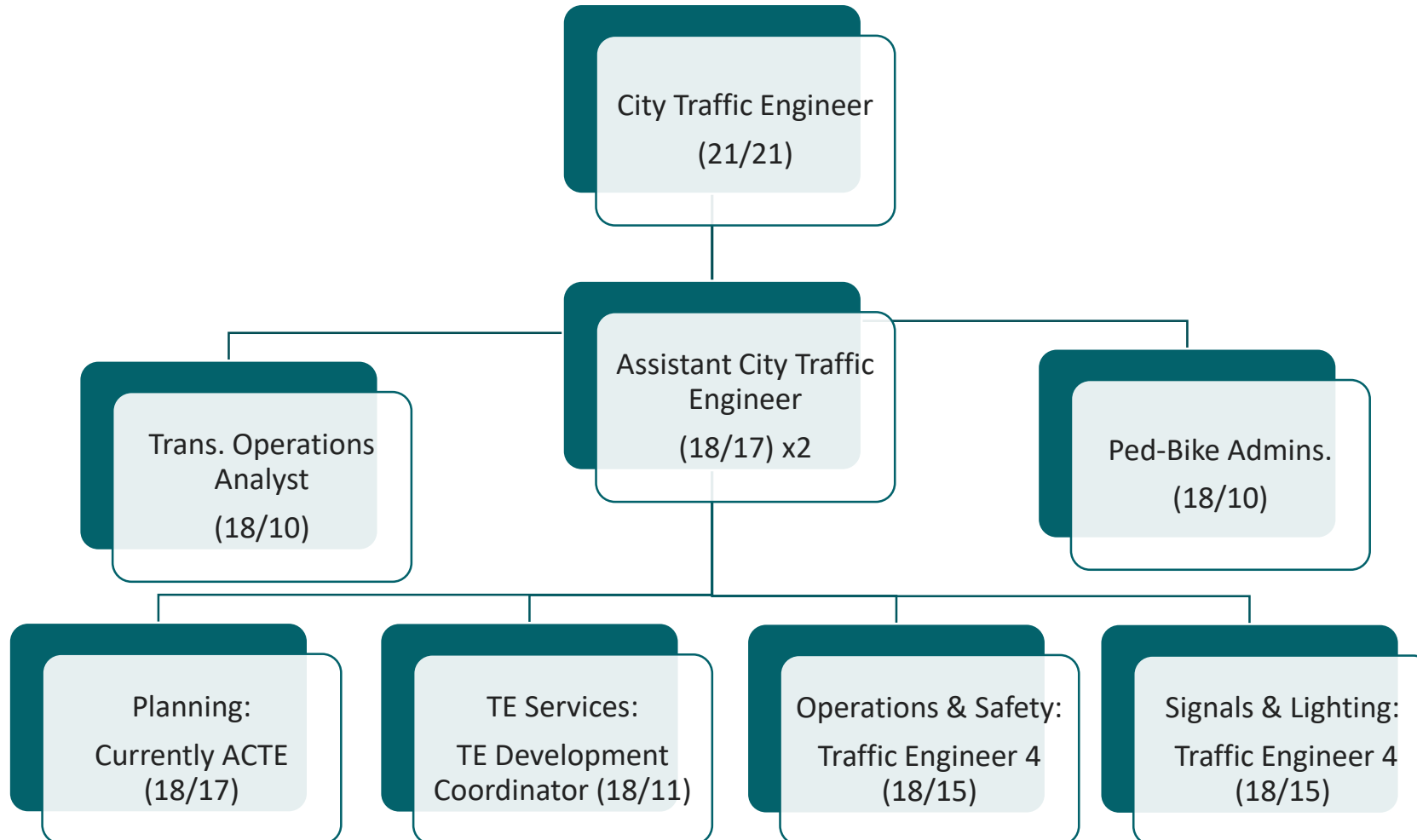
TE Field Operations (TE Shop):

1120 Sayle St (Signing, Marking, Signal,
Lighting, Fiber Communications)

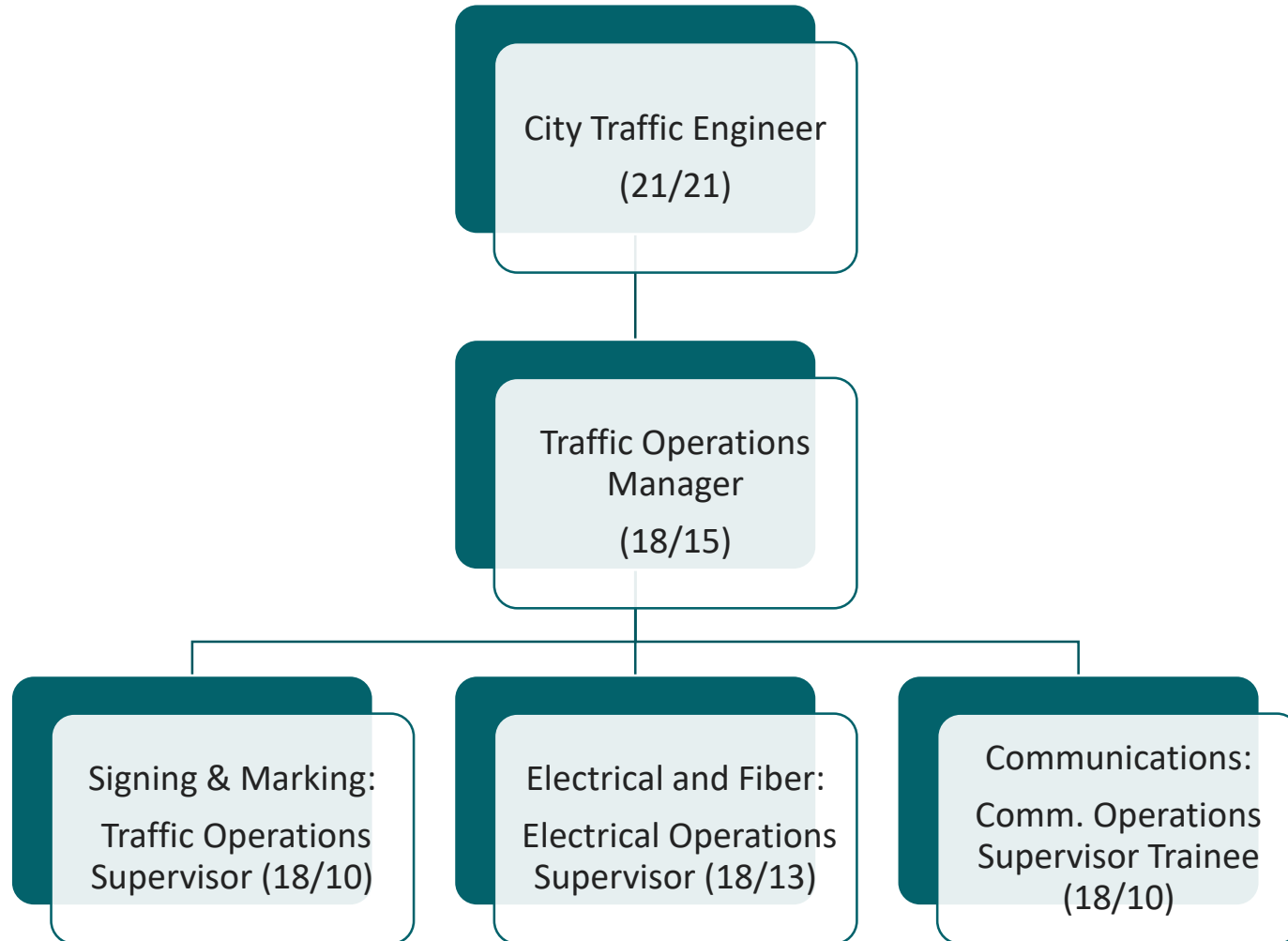
4151 Nakoosa Trail (Radio Communications)



Structure: TE Office Org Chart

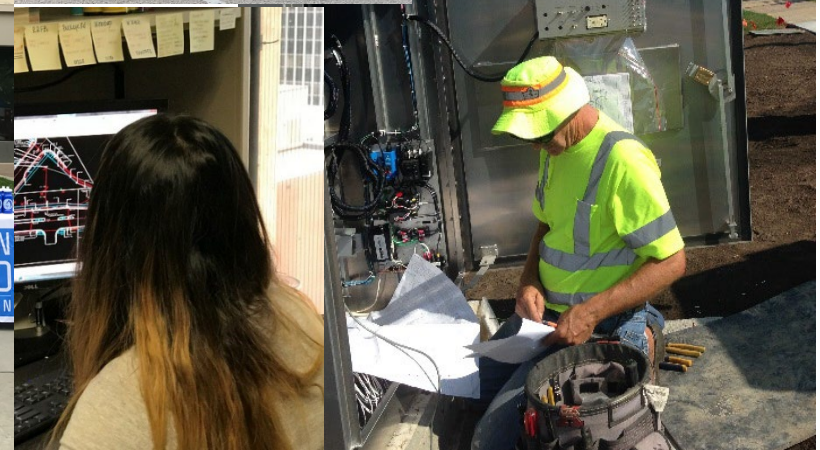


Structure: TE Shop Org Chart



8 Major Services

- Pedestrian Bicycle Services
- Signing
- Pavement Markings
- Traffic Signals
- Streetlighting
- Fiber Communications
- Radio Communications
- Planning and Data Services



Service 1: Pedestrian Bicycle Services



- Ped/bike issues are integral to other services we provide, such as transportation planning, traffic signals, signing, streetlighting, pavement markings and traffic control plans
- Manages pedestrian and bicycle infrastructure improvements and program administration
- Provides education and outreach
- Administers School Crossing Guard Program

Service 2: Signing



- Fabricates, installs, repairs, and relocates signs in the City
- Maintains over 50,000 signs
- Revenue from making and maintaining signs for other agencies and surrounding municipalities

Service 3: Pavement Markings



- Installs and maintains pavement markings throughout the City
- For example, each year:
 - 140 miles of street centerline
 - 850 school crosswalks
 - 1,500 regular crosswalks
- Increasing demand for additional and more complex pavement markings: the growing lower stress bike infrastructure and the public's demand for safer pedestrian crossings

Service 4: Traffic Signals



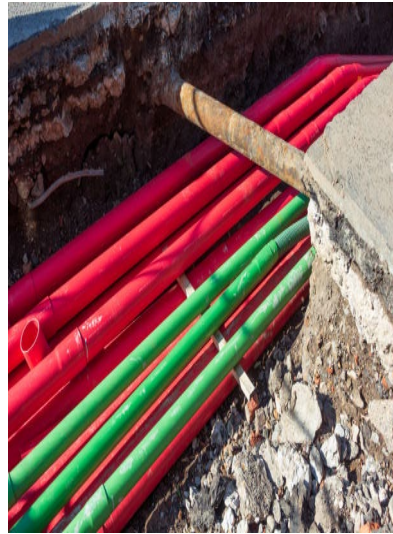
- Designs, installs, repairs, and operates traffic signals and conduits in the City
- Revenue from installing and maintaining traffic signals for other agencies and surrounding municipalities
- Currently maintains:
 - Over 400 traffic signals
 - Dozens of traffic cameras located in the City's ROW and frequent assistance on other City cameras
 - Numerous other devices: RRFBs, DFBs, safety beacons and ped/bike counters. Demand is increasing rapidly.

Service 5: Streetlighting



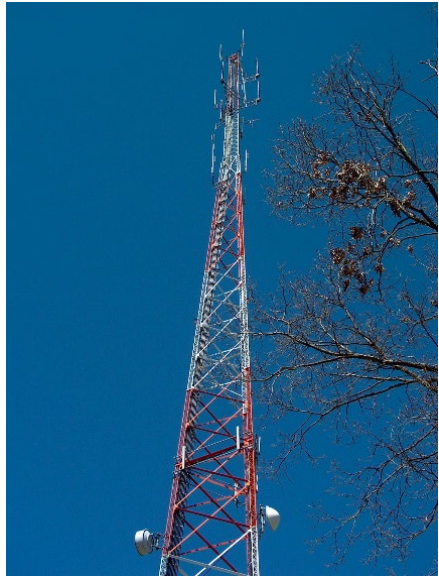
- Installs, repairs, and relocates streetlights
- Over 18,000 Street lights in City of Madison
 - Over 9,000 maintained by TE electricians
 - Rest maintained by the utility companies
- Also maintains streetlights for and receives revenue from the State and 10 other communities throughout Dane County

Service 6: Fiber Communications



- Installs, repairs, and maintains the City's fiber communication and conduit systems
- Maintains Metropolitan Unified Fiber Network (MUFN) fiber system
- Responsible for over 340 miles of backbone fiber optic

Service 7: Radio Communications



- Installs, repairs, calibrates, modifies and tests two-way radios and associated electronic equipment; and plans, designs and installs municipal communications systems
- Maintains the City's digital P25 Simulcast Radio System with 23 channels and 8 tower sites
- Serves approx. 5000 users including city employees (MFD, MPD, Metro, etc); and users from Dane county, the State and various Federal agencies
- Handles 8 million calls with 14,000 hours of air time every year

Service 8: Planning and Data Services



- Assists on the overall transportation and traffic planning, design and transportation engineering for the City
- Provides overall leadership for traffic safety programs in the City
- Transportation review for private and public development projects
- Works with neighborhoods and other government entities in planning transportation improvements
- Data, mapping and permitting services

People

Permanent Employees: 70

Hourly/Seasonal Employees: 74

Total # of Employees: 144



Section	# of Permanent Positions
signing	13
streetlighting	7
pavement markings	4
communications	10
traffic signals	13
special services	10
ped Bike	4.6
general admin	8
Total	69.6

Key Staff

- *Yang Tao, City Traffic Engineer*
 - *Agency head, overseeing all staff and operations*
- *Vacant, Assistant City Traffic Engineer*
 - *Deputy to agency head, transportation planning and design, development projects*
- *Vacant, Assistant City Traffic Engineer (New)*
 - *New position added 2023, administration, employee development, field operations support*
- *Keith Pollock, Transportation Operations Analyst*
 - *Budgets, billings, purchases, operations analysis, licensing such as taxicabs*
- *Renee Callaway, Pedestrian Bicycle Administrator*
 - *Pedestrian Bicycle programs, education and outreach*
- *Eric Halvorson, Development Coordinator*
 - *Development review, data, mapping, permits*
- *Tom Mohr, Traffic Engineer 4*
 - *Safety, signing and marking, currently also serving as the Interim Assistant City Traffic Engineer*
- *Vacant, Traffic Engineer 4*
 - *Traffic signals, streetlighting, fiber communications*
- *Phil Nehmer, Traffic Operations Manager*
 - *Overseeing all field operations in traffic, electrical and communications*
- *Vacant, Traffic Operations Supervisor*
 - *Signing and marking operations*
- *Chad Veinot, Electrical Operations Supervisor*
 - *Traffic signal, streetlighting, fiber optic, and other electronic equipment in field*
- *Andy Oliver, Communications Operations Lead Worker*
 - *Radio communications, currently also filling in as the Communications Supervisor Trainee*

Common Citywide Collaborations

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Common Citywide Collaborations

Staff in our agency most often collaborate with these agencies across TeamCity:

Agency	Topic(s)
Parking Division	Parking Regulations, Signing and Enforcement
Metro Transit	Transit Operations and Accommodations, Transit Signal Priority, Bus Stops
Engineering Division	Street, Sidewalk and Path Design and Construction
Planning Division	Comprehensive and neighborhood plans, Development Projects
Information Technology	Fiber Communication, Cameras, Smart City Technologies
Police Department	Traffic Safety and Enforcement, Major Event and Incident Management
Metropolitan Planning Organization	Regional and Long-Term Transportation Planning
Fire Department and Public Health	Public Safety and Health issues, Emergency Response and Vision Zero
Other Public Works Agencies such as Streets, Parks, Fleet and Water Utility	Street signing, Shared-Use paths, Work Zone Safety, Traffic Control, Vision Zero, Electrical Vehicle Infrastructure
Other DPCED Agencies such as Economic Development and Building Inspection	Streeteries, Small Cell Co-Locates and other Infrastructure Leases, Safety and Building Code Enforcement

Boards, Committees, Commissions

Our agency staffs the following City of Madison Boards, Committees and Commissions:

Board, Committee, Commission	Key Staff
Transportation Commission	Yang Tao (Inaugural Executive Secretary) Aidan Larson (Current Recording Secretary)
School Traffic Safety Committee (Not an Official City BCC)	Tom Mohr Renee Callaway Ali Heinritz

Agency Resources

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Our Agency's Key Links

- Agency Website(s):
 - Traffic Engineering Division Main Site: <https://www.cityofmadison.com/trafficengineering/>
 - Vision Zero: <https://www.cityofmadison.com/transportation/initiatives/vision-zero>
 - Complete Green Streets: <https://www.cityofmadison.com/transportation/initiatives/complete-green-streets>
 - Let's Talk Streets: <https://www.cityofmadison.com/transportation/initiatives/lets-talk-streets>
- Key Report(s):
 - [City of Madison Crash Facts Report](#), Annually
 - [City of Madison Traffic Volume Report](#), Periodically
 - Traffic Signal Priority [List](#) and [Report](#), Annually
 - Vision Zero Annual Report, first report to be released soon
- [Wisconsin State Statutes](#)
 - Most important Chapters are [Chapter 346](#) and [Chapter 349](#)
 - Numerous sections of other chapters apply too
- [Madison General Ordinances](#)
 - Numerous sections in Chapters 10, 11, 12, 16 and 33

Our Agency's Acronyms: Initiatives

Common acronyms used by our agency include:

VZ

- Vision Zero

SSM

- Safe Streets Madison

CGS

- Complete Green Street

TDM

- Transportation Demand Management

BRT

- Bus Rapid Transit

TSP

- Transit Signal Priority

Our Agency's Acronyms: Resident Requests

Common acronyms used by our agency include:

AWS

- All Way Stop

TSPL

- Traffic Signal Priority List

NPA

- No Parking Anytime

RRFB

- Rectangular Rapid Flashing Beacon

DFB

- Driver Feedback Board

APS

- Accessible (Audible) Pedestrian Signal

Our Agency's Acronyms: Industry Technical Jargons

Common acronyms used by our agency include:

MUTCD

- Manual of Uniform Traffic Control Devices

AADT

- Annual Average Daily Traffic

ROW

- Right of Way

ITS

- Intelligent Transportation System

ATMS

- Advanced Traffic Management System

TSMO

- Transportation System Management and Operations

Our Agency's Acronyms: Organizations

Common acronyms used by our agency include:

NACTO

- National Association of City Transportation Officials

ITE

- Institute of Transportation Engineers

MPO

- Metropolitan Planning Organization

WisDOT

- Wisconsin Department of Transportation

FHWA

- Federal Highway Administration

USDOT

- United States Department of Transportation

Our Agency's Acronyms: City BCCs

Common acronyms used by our agency include:

TC

- Transportation Commission

TPPB

- Transportation Policy and Planning Board

BPW

- Board of Public Works

PC

- Plan Commission

FC

- Finance Committee

CC

- Common Council

OUR CITY OF MADISON



Let's Connect!

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