

DAY 4 • 28 SEPTEMBER 2026

Vehicle Transport Management

Fleet economics, network design, compliance
and the road to green fleets

Session 1: 8:45–10:45 | Session 2: 11:30–1:30
BBA Marketing and Automobile Management | GU Campus,
Greater Noida



Day 4 — Schedule at a Glance

8:45 – 10:45 • Session 1

Fleet and Transport Management Fundamentals

10:46 – 11:30 • Tea Break

Networking with industry experts

11:30 – 1:30 • Session 2

Regulatory Compliance and Sustainability

1:30 onwards • Lunch and Felicitation

Close of the 4-day workshop

Timings follow the official 4-day workshop schedule.

Safer
Cleaner
Greener
Together

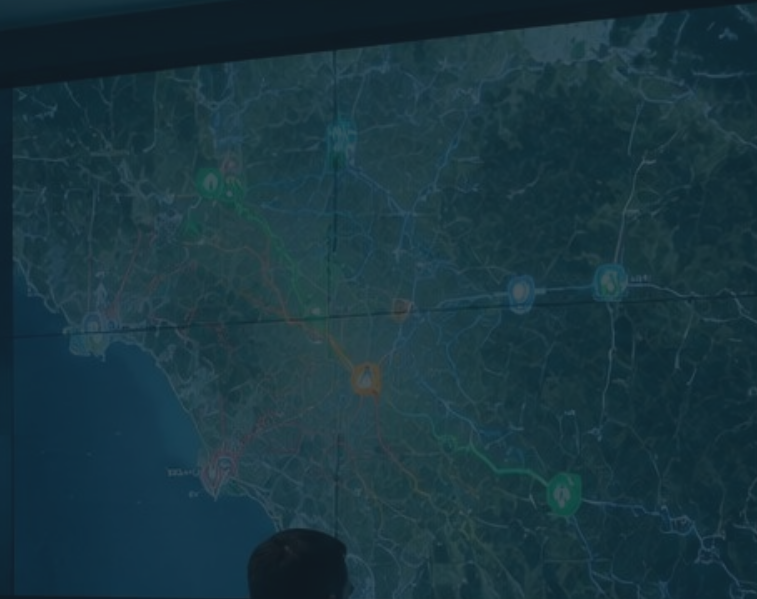
01

SESSION 1 • 8:45 - 10:45

Fleet and Transport Management Fundamentals

Sizing, costing and routing a fleet as a management discipline — not a maintenance chore

Fleet Overview



Live Fleet Tracking

Vehicle	Status	Location	ETA
TRK-001	On Route	Riverside Dr	12 min
TRK-002	On Route	Maple Ave	18 min
TRK-003	On Route	Oak St	25 min
TRK-004	Idle	Pine Rd	-
TRK-005	On Route	Cedar Ln	32 min
TRK-006	On Route	Elm St	14 min
TRK-007	Exception	West Blvd	-
TRK-008	On Route	Lakeview Dr	21 min

Route Performance



Fuel Efficiency



What you will be able to do

- 1 Explain the core decisions in fleet composition planning and vehicle selection
- 2 Apply total cost of ownership thinking to a fleet vehicle purchase decision
- 3 Compare hub-and-spoke and point-to-point network designs
- 4 Describe route optimisation and last-mile delivery economics
- 5 Explain how telematics supports day-to-day fleet decisions

 **Duration: 120 minutes, including tutorial and quiz**

Fleet Composition Planning

Vehicle type and capacity

Matched to the load profile — weight, volume and typical distance per trip.

Owned vs leased vs hired

The mix balances capital intensity against flexibility and scalability.

Fleet age and replacement cycle

Balances rising maintenance cost against depreciation and resale value.

Fuel type mix

Diesel, CNG or electric — chosen on route profile and total cost of ownership.

3–5 yrs typical replacement cycle for light commercial vehicles in intensive use

TCO Components for a Fleet Vehicle

Component	Description
Acquisition cost	Purchase price or lease cost of the vehicle
Fuel / energy cost	The largest recurring cost, driven by route and driving pattern
Maintenance and repair	Scheduled service, wear parts and unscheduled repair
Insurance and compliance	Premiums, permits and fitness-certificate renewals
Driver cost	Salary, incentives and training
Depreciation / resale value	Residual value realised when the vehicle is disposed of

Rule of thumb: the purchase price is only the entry ticket — lifetime cost is decided by fuel, driver and maintenance.

Network Design Choices

Hub-and-Spoke

- Central hubs consolidate and sort freight before onward movement
- Fewer, larger vehicle movements between hubs improve efficiency at scale
- Adds a transfer step and time — best for large, dispersed networks

Point-to-Point

- Freight moves directly from origin to destination, no intermediate hub
- Faster for high-volume, high-density lanes
- Less efficient for scattered, low-volume demand

▶ [Watch: hub-and-spoke vs point-to-point](#)

A 3-minute comparison to watch before the tutorial.

Route Optimisation and Last-Mile Delivery

01

Demand aggregation

Orders are clustered by area and delivery time window

02

Route sequencing

Software optimises stop order to minimise distance and time

03

Dispatch and tracking

GPS-enabled real-time visibility of every vehicle in motion

04

Proof of delivery

The loop closes and data feeds the next planning cycle

Last-mile cost is where most delivery businesses win or lose their margin.

Telematics and GPS Fleet Tracking

Real-time visibility

Live location and accurate ETAs for customers and dispatchers

Driver behaviour

Harsh braking, speeding and idling flagged for coaching

Fuel and theft detection

Consumption tracking flags pilferage or inefficient driving

Predictive maintenance

Diagnostics can flag a service need before a breakdown

► [Watch: what is telematics?](#)



10–15%

illustrative fuel savings reported from telematics-driven driver coaching

Fleet Sizing and Route Case Exercise

🕒 20 minutes • Small groups

1. Each group receives a delivery brief: daily demand volume, number of zones, vehicle capacity and average zone-to-zone distance.
2. Calculate the minimum number of vehicles needed to cover daily demand within the shift window — show your working.
3. Decide whether hub-and-spoke or point-to-point fits this demand pattern, and justify the choice.
4. Name one telematics metric you would track in month one to validate your fleet plan.

Deliverable: a one-page fleet-sizing worksheet with vehicle count, network-design choice and chosen telematics metric.

Quick Check — Questions 1 to 3

1. Total cost of ownership for a fleet vehicle includes all of the following EXCEPT:

- A. Fuel cost
- B. Driver cost
- C. Brand advertising spend
- D. Maintenance cost

2. A design where freight is consolidated at central hubs before onward movement is called:

- A. Point-to-point
- B. Hub-and-spoke
- C. Milk run only
- D. Cross-docking only

3. Point-to-point network design is generally most efficient for:

- A. Scattered, low-volume demand
- B. High-volume, direct lanes
- C. Only air cargo
- D. Only rail freight

Quick Check — Questions 4 to 6

4. Route optimisation software primarily helps by:

- A. Reducing driver salaries
- B. Sequencing stops to cut distance/time
- C. Removing the need for insurance
- D. Replacing telematics

5. Telematics data can be used for all of the following EXCEPT:

- A. Real-time location tracking
- B. Driver behaviour monitoring
- C. Predictive maintenance alerts
- D. Setting road tax rates

6. The largest recurring cost component in most fleet TCO models is typically:

- A. Insurance
- B. Fuel / energy cost
- C. Driver training
- D. Vehicle depreciation

Answer Key — Session 1 Quiz

Q1 · C

Advertising isn't a TCO component

Q4 · B

Optimises stop sequencing

Q2 · B

Hubs consolidate freight

Q5 · D

Road tax is set by regulation

Q3 · B

Point-to-point suits dense lanes

Q6 · B

Fuel dominates recurring cost

02

SESSION 2 • 11:30 – 1:30

Regulatory Compliance and Sustainability

Permits, e-way bills, driver safety, emission norms — and the shift to green fleets

What you will be able to do

- 1 Identify the key permits and licences required to run a commercial fleet in India
- 2 Explain the e-way bill requirement and its role in goods-movement compliance
- 3 Describe driver licensing, safety management and fatigue management
- 4 Explain BS-VI emission norms and their impact on fleet composition
- 5 Outline how fleet KPIs and green-fleet adoption shape transport strategy

 **Duration: 120 minutes, including tutorial and quiz**

Key Permits and Compliance Documents

Document	Purpose
National / State Permit	Authorises commercial operation across state or national routes under the Motor Vehicles Act
Fitness Certificate	Certifies roadworthiness; must be renewed periodically
Commercial / Heavy Licence	Authorises driving of goods or passenger commercial vehicles
Insurance (third-party)	Third-party cover is mandatory; comprehensive cover is recommended for fleet assets
PUC Certificate	Confirms the vehicle meets emissions compliance requirements

One lapsed document can ground a vehicle — compliance is an operations job, not a back-office one.

The E-Way Bill, at a Glance

₹50,000

Consignment value above which an e-way bill is mandatory for inter-state goods movement

1 day / 200 km

Standard validity period for regular cargo under CGST rules

₹10,000+

Minimum penalty for non-compliance, alongside possible detention of vehicle and goods

Intra-state thresholds vary by state (some allow up to ₹2,00,000) — always verify the applicable state notification before planning a shipment.

▶ [Watch: e-way bill rules explained](#)

Driver and Safety Management

Licensing tiers

Light Motor Vehicle, Heavy Motor Vehicle and commercial badge requirements apply by vehicle class.

Fatigue management

Structured rest breaks reduce fatigue-related accidents on long-haul routes.

Training and safety scoring

Increasingly driven by telematics data rather than periodic manual reviews.

Insurance and liability

Third-party cover is mandatory; comprehensive cover is standard for fleet assets.

The safest fleets treat driver coaching as a weekly habit, not an annual event.

Emissions and the Green Fleet Transition

BS-VI emission norms

In force since April 2020, with tightened Real Driving Emission checks added later; strict NOx and particulate limits

CNG and LNG

Transitional lower-emission fuels widely adopted by commercial fleets

Electric fleet adoption

Growing fastest in last-mile urban logistics and intra-city bus fleets

Carbon reporting

Increasingly expected by large corporate shippers from their logistics partners

Emissions are now a fleet-planning input, not an afterthought.



Common Fleet KPIs

KPI	What it measures
Vehicle utilisation	Share of available vehicle-time actually in productive use
Cost per km	Total operating cost divided by distance run
On-time delivery %	Service reliability from the customer's perspective
Fuel efficiency (km/l or km/kWh)	Energy efficiency of the fleet
Downtime / breakdown rate	Effectiveness of the maintenance programme

Pick three KPIs and review them weekly — a dashboard nobody reads changes nothing.

Compliance Audit Exercise

 20 minutes • Pairs or small groups

1. Each group receives a mini fleet profile — for example a 10-vehicle intra-city goods fleet running diesel light commercial vehicles.
2. Using this session's permits table, build a checklist covering permits, licences, insurance, PUC and e-way bill applicability.
3. Identify one likely compliance gap for a fleet like this (say, an expired fitness certificate) and propose a corrective action.
4. Propose one KPI from the KPI table this fleet should start tracking, and explain why.

Deliverable: a completed compliance checklist plus one proposed KPI with a one-line justification.

Quick Check — Questions 1 to 3

1. An e-way bill is generally mandatory for inter-state goods movement above what value?

- A. ₹10,000 B. ₹25,000 C. ₹50,000 D. ₹1,00,000 uniformly

2. Which certificate confirms a vehicle's roadworthiness and must be renewed periodically?

- A. PUC certificate B. Fitness certificate C. Driving licence D. Insurance policy

3. BS-VI emission norms in India have been in force since:

- A. 2015 B. 2017 C. April 2020 D. 2025

Quick Check — Questions 4 to 6

4. Which of these fleet KPIs measures service reliability?

A. Cost per km

B. On-time delivery %

C. Fuel efficiency

D. Vehicle utilisation

5. A commercial goods vehicle driver in India typically requires:

A. Any valid LMV licence

B. A commercial/heavy-vehicle licence

C. No licence, only registration

D. Only a learner's permit

6. The regular-cargo validity period for an e-way bill is approximately:

A. 1 day per 50 km

B. 1 day per 200 km

C. 1 day per 500 km

D. Unlimited once issued

Answer Key — Session 2 Quiz

Q1 • C

₹50,000 is the standard threshold

Q4 • B

On-time delivery measures reliability

Q2 • B

Fitness certificate confirms roadworthiness

Q5 • B

A commercial licence is required

Q3 • C

BS-VI began April 2020

Q6 • B

1 day per 200 km for regular cargo

Day 4 — Key Points to Keep

1. TCO beats sticker price

Fuel, driver, maintenance and resale decide lifetime cost.

2. Match network to demand

Hub-and-spoke for dispersed volume; point-to-point for dense lanes.

3. Last mile decides margin

Clustering, sequencing and proof of delivery are the levers.

4. Telematics is management data

Location, driver behaviour, fuel and predictive maintenance.

5. Compliance is operational

Permit, fitness, licence, insurance, PUC, e-way bill.

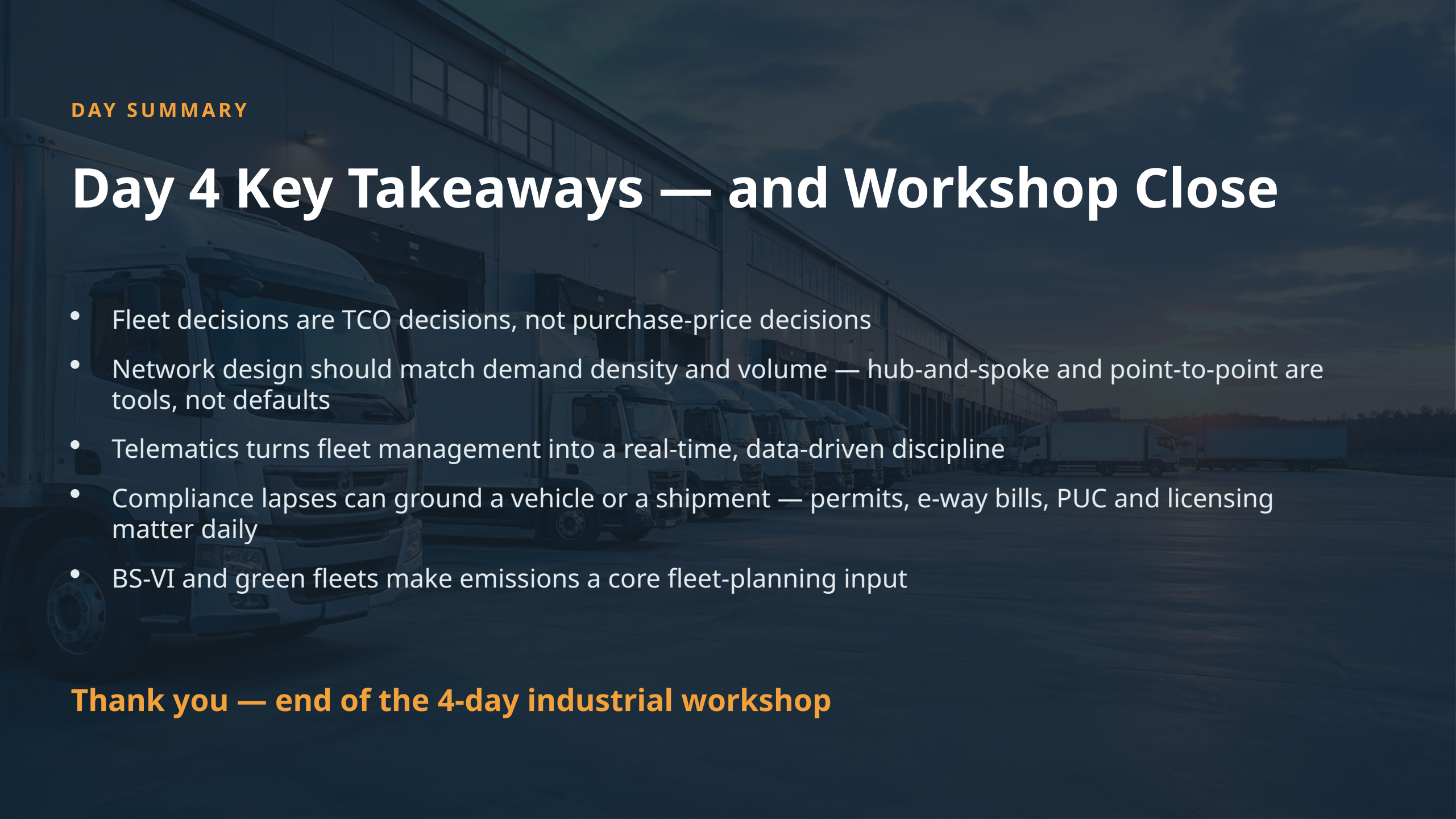
6. Green fleets are planning inputs

BS-VI, CNG/LNG, EV last mile, carbon reporting.

MY TAKEAWAY: _____

MY QUESTION: _____

Videos used today: hub-and-spoke vs point-to-point • what is telematics • e-way bill rules explained



DAY SUMMARY

Day 4 Key Takeaways — and Workshop Close

- Fleet decisions are TCO decisions, not purchase-price decisions
- Network design should match demand density and volume — hub-and-spoke and point-to-point are tools, not defaults
- Telematics turns fleet management into a real-time, data-driven discipline
- Compliance lapses can ground a vehicle or a shipment — permits, e-way bills, PUC and licensing matter daily
- BS-VI and green fleets make emissions a core fleet-planning input

Thank you — end of the 4-day industrial workshop