Name: _____ Class Color: _____ Date: _____ I

Transportation Systems- Reference Sheet

A **Transportation System** is a facility consisting of the means and equipment necessary for the movement of passengers or goods using a variety of vehicles and devices.

Types of Vehicles:

Vehicle Type		
Car	a road vehicle, typically with four wheels, powered by an internal combustion engine and able to carry a small number of people.	
Boat	a small vessel propelled on water by oars, sails, or an engine.	
Airplane	a powered flying vehicle with fixed wings and a weight greater than that of the air it displaces.	
Train	a series of railroad cars moved as a unit by a locomotive or by integral motors.	

Transportation Subsystems:

A **subsystem** is a system within a larger system. There are **six** transportation subsystems:

Propulsion, Suspension, Control, Guidance, Structural, & Support

Transportation Subsystems interact with every vehicle for it to function properly.

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Subsystem	Definition	Vehicle Parts	Car Example
Propulsion	The propulsion system provides the force that moves the vehicle toward the destination.	• Engine • Transmission	Provides the force that moves the car forward
Suspension	The suspension system supports the weight of a vehicle as it moves down a pathway.	• Shocks • Tires • Wings	Supports the cars weight as it moves down a pathway
Control	Control systems influence the speed and direction of a vehicle's path.	• Steering wheel • Brakes	Steering wheel turns car Operator stops vehicle for safety (red light, stop sign) or when at their destination
Guidance	Guidance systems provide information concerning the control of the vehicle.	• Maps • GPS	Located inside the car to help the operator navigate to their intended destination
Structural	Structural systems accommodate a vehicle's cargo and form the basic framework of the vehicle.	• Chassis (frame) • Body	The support structure of the car. The shape, sturdiness, and basic framework of the car *(What it looks like and how it is held together)*
Support	Support systems are used to maintain vehicles	• Garage • Mechanic • Gas Station	The places you take your car to be fixed, fueled or improved

<u>Transportation Design Elements:</u>

Vehicle Design- Maintain safe and proper usage of vehicles in today's world

- **Vehicle Shape-** can be changed to maximize cargo or passenger capacity
- **Terminals-** the end of a railroad or other transport route, or a station at such a point
- **Travel Lanes-** occur on highways, roads, and main streets for safe travel
- **Communication/Controls-** used to identify location and movement of vehicles (ex. street cameras), and monitor equipment to keep the network rolling (ex. GPS)

Universal Signs – symbols, diagrams, and pictures that are used to convey a message that people from all around the world will recognize, **<u>regardless of the language they speak</u>**