P.A.C.E.

BEHAVIORAL DRIVING

FIFTEEN PASSENGER

VAN TRAINING

March 2007
Behavioral Driving

P.A.C.E. - Fifteen Passenger Van Driver Awareness Training

Classroom Instruction
- Collision Causation
- Vehicle Dynamics
- Safe Operation of Fifteen Passenger Vans
- P.A.C.E. Driving Techniques

In-Vehicle Training
- Commentary Driving
- Skills Exercise
- Vehicle Inspection
Behavioral Driving

- Define Defensive Driving?
- What percent of all collisions are directly attributed to poor environmental conditions?
- How many feet does it take a fifteen passenger van to stop while driving at 50 MPH?
- How many feet / second is our vehicle covering while traveling 50 MPH?
- What is a safe following distance when traveling 50 MPH?
Behavioral Driving

- What is the most desirable parking option in an open parking lot?
- While driving, how far up the road should we be examining?
- Mirrors should be examined every how many seconds?
- Operating a fully loaded fifteen passenger van may expose you to what type of collision?
- What simple safety measure could have prevented a large majority of the fifteen passenger van fatalities over the past decade?
Behavioral Driving

Collision Causation

1. Defensive Driving
2. Three Elements of Traffic
3. Definition of a Collision
4. At-Risk Behaviors
5. At-Fault vs. Preventability
6. Road Rage
7. Staged Auto Collisions
Behavioral Driving

NSC Defensive Driving:

- Controlling your vehicle
- Adjust to the environment
- Compensate for the incorrect actions of others
Behavioral Driving

P.A.C.E. Definition for Safe Driving

“The best way to avoid a crash is not to drive into one”
Behavioral Driving

Plan Ahead
Analyze the surroundings
Communicate with others
Execute safe driving
YOURSELF
Behavioral Driving

Three Elements That Make Up Traffic?

VEHICLES
ENVIRONMENT
PEOPLE

How does each element lead to collisions?
Behavioral Driving

What Is a Collision?

A vehicle colliding with another is not considered an accident!

Accidents occur without the control of those involved.

Collisions (crashes) occur as a result of the incorrect actions of one or more parties.
Behavioral Driving

How do people cause crashes?

- Less than favorable choices
- Incorrect actions
- AT-RISK BEHAVIORS

90% of all crashes can be directly attributed to the incorrect behaviors of drivers
Behavioral Driving

“At-Risk Behaviors” (unsafe acts) cause more crashes than unsafe conditions.
Behavioral Driving

Most at-risk behaviors do not result in crashes

- Fatalities
- Injuries / Collisions
- Near Misses
- At-Risk Behaviors
Behavioral Driving

Interrelated Circles of Influence

Culture

Behaviors

Attitudes
Behavioral Driving

Risk Taking Exercise

How do you weigh the following risks?
Rank from 1 (least significant) to 5 (most significant).

_____ Pre-tripping your vehicle
_____ Stopping for a red light at busy intersection
_____ Leaving on-time for an appointment
_____ Phone conversation with boss while driving
_____ Driving the speed limit
Behavioral Driving

AT-FAULT vs. PREVENTABILITY

- At-Fault Collision - Determination of who is liable for the collision

- Preventable Collision - Determination of whether a party involved executed every possible action to avoid the collision
Behavioral Driving

Road Rage

1) To what extent have you experienced it?
2) How to avoid?
3) How to deal with the irate driver?
### Behavioral Driving

#### Road Rage - “To What Extent Have You Experienced It”

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>SYMPTOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mentally condemn other drivers</td>
</tr>
<tr>
<td>2</td>
<td>Verbally denigrate other drivers to passenger in you car</td>
</tr>
<tr>
<td>3</td>
<td>Closing ranks to deny someone entering your lane</td>
</tr>
<tr>
<td>4</td>
<td>Giving another driver a dirty look</td>
</tr>
<tr>
<td>5</td>
<td>Speeding past another car or revving your engine as a sign of protest</td>
</tr>
<tr>
<td>6</td>
<td>Preventing another driver from passing</td>
</tr>
<tr>
<td>7</td>
<td>Tailgating or pressuring a driver to go faster or get out of the way</td>
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<tr>
<td>8</td>
<td>Fantasizing physical violence against another driver</td>
</tr>
<tr>
<td>9</td>
<td>Honking or yelling at someone through the window</td>
</tr>
<tr>
<td>10</td>
<td>Making a visible obscene gesture at another driver</td>
</tr>
<tr>
<td>11</td>
<td>Using your car to retaliate by making sudden, threatening maneuvers</td>
</tr>
<tr>
<td>12</td>
<td>Pursuing another car in chase</td>
</tr>
<tr>
<td>13</td>
<td>Getting out of the car and engaging in verbal abuse</td>
</tr>
<tr>
<td>14</td>
<td>Carrying a weapon in the car in case you decide to use it</td>
</tr>
<tr>
<td>15</td>
<td>Deliberately bumping or ramming another car</td>
</tr>
<tr>
<td>16</td>
<td>Trying to run another car off the road to punish the driver</td>
</tr>
<tr>
<td>17</td>
<td>Getting out of the car and beating or battering someone</td>
</tr>
<tr>
<td>18</td>
<td>Trying to run someone down</td>
</tr>
<tr>
<td>19</td>
<td>Shooting at another car</td>
</tr>
<tr>
<td>20</td>
<td>Killing someone</td>
</tr>
</tbody>
</table>

**Road Rage Levels**

- **1-3**: The unfriendly zone
- **4-7**: The hostile zone
- **8-11**: The violent zone
- **12-16**: The lesser mayhem zone
- **17-20**: The major mayhem zone
Methods of staging auto accidents

A ring leader, typically a corrupt attorney or physician, hires a 'capper,' a street-level collision coordinator. The capper recruits passengers, called 'stuffers,' promising them money. After the orchestrated accident, the capper refers the stuffers to an unethical lawyer and/or a crooked doctor. The doctor writes bills for 'treatment' of nonexistent injuries. The lawyer negotiates a settlement with the insurers of the cooperating stuffers. The ring leader collects insurance payments and pays the capper and stuffers, but keeps the lion's share for himself.

Protect yourself against staged collisions
Auto insurance companies suggest:
- Don't tailgate.
- Call police to the scene for an accident report.
- Carry a disposable camera to photograph damage and occupants of the other car.

Types of staged accidents
Swoop and squat

1. A team of three cars surrounds a truck. Car B moves in front of the truck while Car C blocks its side.
2. Car A hits the brakes and Car B stops short, causing the truck to rear-end Car B. Car A leaves the scene.

Drive down

1. Car A, having the right-of-way, yields it to Car B.
2. Car A then accelerates and hits Car B.

Start and stop

1. Car A moves forward after stopping at a light or sign.
2. Car A then slams on the brakes, forcing Car B to rear-end it.
Behavioral Driving

Vehicle Dynamics

1. Driving Distractions
2. Traction
3. Skid Control & Recovery
4. Stopping Distances
5. Backing
Behavioral Driving

Vehicle Characteristics

“Operating a vehicle requires your undivided attention”

Common driving distractions:

• Cell phone use
• Map reading
• Eating
• Reading memos, sales reports, newspapers, etc.
• Communicating with others in the vehicle
Behavioral Driving

Traction

- What affects traction?
- What surface allows for best traction?
  - Stopped Vehicle
  - Dry Concrete
  - Wet
  - Snow covered
  - Icy
  - Skidding Wheel
Behavioral Driving

Skid Control & Recovery

- What causes skids?
- Power skids vs. deceleration skids
- Skidding wheels always tend to lead
Behavioral Driving

Stopping Distances

- What affects stopping distance?

- Stopping distance vs. following distance

- How do you determine a safe following distance?
The chart shows perception and reaction distance, effective braking distance, total stopping distance, and assured stopping distance for 15 passenger vans. Distances are given in feet. For wet, snow-covered, or icy roads, multiply the total stopping distance by 3 to 12 times.
Behavioral Driving

Safe Backing Procedures

- Avoid if possible
- Back in - Drive out
- GOAL
- Engage 4 - ways
- Sound horn twice
- Look over shoulders
- Use all mirrors
- Utilize a spotter whenever available
- Avoid blindside backing
- Back slowly / cautiously / don’t hurry
Behavioral Driving

Safe Operation of Fifteen Passenger Vans

1. What We Know About Fifteen Passenger Van Safety
2. Characteristics of a Fifteen Passenger Van
3. Factors Contributing to Fifteen Passenger Van Incidents (Rollovers / Passenger Injuries)
4. Applying P.A.C.E. Behavioral Driving to Prevent Fifteen Passenger Van Operations
Behavioral Driving

What We Know About Fifteen Passenger Vans

“Fifteen passenger vans with ten or more occupants have a rollover rate that is nearly three times the rate of those that are lightly loaded”

“Considering single vehicle fifteen passenger van collisions, 90% of all rollovers are the end result of running off the roadway”
Behavioral Driving

What We Know About Fifteen Passenger Vans

“In 2000, 80% of the passengers that were fatally injured, were not wearing their seatbelts”

“Over the past decade, 92% of all belted passengers survived rollovers; whereas only 23% of unbelted passengers survived”
Behavioral Driving

Characteristics of a Fifteen Passenger Van

1. High Rollover Potential - Center of Gravity
2. Extensive Blind Spots
3. Large Bulky Vehicle
4. Height Restrictions
5. Vehicle Stability
Behavioral Driving

Characteristics of a Fifteen Passenger Van

High Rollover Potential
Behavioral Driving

Characteristics of a Fifteen Passenger Van

Extensive Blind Spots
Behavioral Driving

Characteristics of a Fifteen Passenger Van

Large / Bulky Vehicle

• Slow acceleration
• Increased stopping distances
• Wide turning radius
• Requires additional room to park
• Challenging to back into tight confines
• Reacts differently to evasive maneuvers
Behavioral Driving

Characteristics of a Fifteen Passenger Van

Height Restrictions

- Parking Structures
- Drive-Thru
- Awnings
- Car Ports
- Hotel Reception Areas

Up to 7 feet
Behavioral Driving

Characteristics of a Fifteen Passenger Van

Vehicle Stability

• Handling depreciates with increased weight
• Prone to rear sway / fishtailing
• Limited structural strength
Behavioral Driving

Factors Contributing To Fifteen Passenger Van Incidents / Injuries

VEHICLE

ENVIRONMENT

DRIVER
Behavioral Driving

“Vehicle” Elements Contributing To Fifteen Passenger Van Incidents / Injuries

- Instability of vehicle
- Weight / number of passengers
- Tires (type / condition / pressure / blow-outs)
- Limited Structural Strength
- Heavy braking
- Overloaded vehicle (people / cargo)
- Hauling a trailer
Behavioral Driving

“Environmental” Elements Contributing To Fifteen Passenger Van Incidents / Injuries

• Slippery surface (rain / ice / snow)
• Limited visibility (fog / rain / smoke)
• Traffic congestion
• Construction
• Wildlife
Behavioral Driving

“Driver” Elements Contributing To Fifteen Passenger Van Incidents / Injuries

• Quick evasive maneuvers
• Heavy braking
• Following too closely
• High speed cornering / turns
• Driving off road / over-steering
• Not wearing seat belts
• Driving too fast for conditions
• Driver fatigue / distractions
Behavioral Driving

1. Plan Ahead
2. Analyze the surroundings
3. Communicate with others
4. Execute safe driving
   YOURSELF
Behavioral Driving - P.A.C.E.

**Plan Ahead (Prepare)**

- Utilize qualified / experienced / trained operators
- Be well rested
- Conduct thorough vehicle inspections
- Establish route / review directions
- Plan trip / leave ahead of schedule / allow time for brakes
- Limit passengers / cargo - distribute evenly
Behavioral Driving - P.A.C.E.

Plan Ahead (Prepare)

Utilize Qualified / Experienced / Trained Operators

“UTS157 (Formerly BPM 16)”

• Review Motor Vehicle Record

• Consider past experiences (prefer 15-pass. van)

• Train

• Driving skills / road evaluation
Behavioral Driving - P.A.C.E.

Plan Ahead (Prepare)

Conduct Thorough Vehicle Inspections

- Before / during / after each trip
- Document deficiencies - complete “Fifteen Passenger Van Inspection Form”
- Review previous “Fifteen Passenger Van Inspection Form”
- Pay close attention to the tires
  - Maintain tire pressure (80-85psi)
  - Replace with high quality tires (“LT” - light duty truck tires)
  - Maintain good tire tread / condition
Behavioral Driving - P.A.C.E.

Plan Ahead (Prepare)

Establish route / review directions

Plan trip / leave ahead of schedule / allow time for breaks
Behavioral Driving - P.A.C.E.

Plan Ahead (Prepare)

Limit Passengers (distribute evenly)

• Only nine passengers including driver allowed on public highways in UT fifteen passenger vans

• Position passengers as far forward to control center of gravity

• Ensure all passengers are belted in prior to moving

• Navigator should be positioned in the front passenger seat
Behavioral Driving - P.A.C.E.

Plan Ahead (Prepare)

Limit Cargo (distribute evenly)

• Do not utilize the open space to overload with cargo
• Limit one piece of luggage per passenger / plus a small carry-on
• Restrain all cargo to prevent shift
• Place cargo lower than seat back height
• Do not place cargo on top of vehicle
• UT System prohibits trailers with 15 passenger vans
Behavioral Driving - P.A.C.E.

**Plan Ahead (Examine Ahead)**

Expand View Forward - Examine Conditions 12-15 Seconds up Road

Reduce Speed As Visibility Decreases

Anticipate the Actions of Those in Front

Drive Smoothly and Cautiously

Time Stoplights to Avoid Constant Braking and Acceleration

Identify the “Lane of Least Resistance”
Behavioral Driving - P.A.C.E.

Analyse Surroundings

- Create a 360 degree picture around vehicle
- Examine mirrors every 5-8 seconds
- Utilize central and peripheral vision
- Clearing intersections (examine left-right-left) prior to entering
- Leave yourself an escape path
- Anticipate what those around you will do
- Size up the scene while you are stopped at intersections / road access entrances
- Examine parked vehicles for “open / covered wheels”
Behavioral Driving - P.A.C.E.

- Create a 360 Degree Picture Around Vehicle
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- Clearing Intersections (Examine Left-right-left) Prior to Entering
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Behavioral Driving - P.A.C.E.

Analyze Surroundings

Leave Yourself an Escape Path

Anticipate What Those Around You Will Do
Behavioral Driving - P.A.C.E.

Analyze Surroundings

Size up the Scene While You Are Stopped at Intersections / Road Access Entrances
Behavioral Driving - P.A.C.E.

**Analyze Surroundings**

Examine parked vehicles for “open / covered wheels”
Behavioral Driving - P.A.C.E.

Communicate With Others

- Drive With Headlights on at All Times
- Proper Use of Turn Signals / Brake Lights
- Avoid Others Blind Spots
- Use Horn to Alert Others of Potential Dangers
- Obtain Eye Contact When Attempting to Determine Others Actions
- Restricted Use of Cell Phones While Operating Vehicle
- Anticipate the Actions of Others
Behavioral Driving - P.A.C.E.

Execute Safe Driving

Wear safety belts
Maintain adequate following distances
Operate at safe / legal speeds - consider conditions
Slow down while executing turns / curves
Practice proper off road maneuvering / shifting surfaces / slow prior to re-entering paved surface
Avoid driving in clusters
Stop at intersections
Park to avoid backing
Safe operation with trailers
Limit the number of hours driving a van to 10 per 24 hour period
Mandatory 30 minute break every 4 hours
Assign a navigator to assist the driver
Limit driving to normal hours - refrain from late nights / early morning trips
Keep fuel tank filled to avoid sloshing effect
Behavioral Driving - P.A.C.E.

Execute Safe Driving

Wear Safety Belts
Behavioral Driving - P.A.C.E.

Execute Safe Driving

Maintain Safe Following Distances
Behavioral Driving - P.A.C.E.

Execute Safe Driving

Operate at Safe / Legal Speeds - Consider Conditions
Behavioral Driving - P.A.C.E.

Execute Safe Driving

Slow Down While Executing Turns / Curves
Behavioral Driving - P.A.C.E.

Execute Safe Driving

Practice Proper Off Road Maneuvering / Be Aware of Changing Surfaces / Slow Down Prior to Re-entering Paved Surface
Behavioral Driving - P.A.C.E.

Execute Safe Driving

Avoid Driving In Clusters
Behavioral Driving - P.A.C.E.

Execute Safe Driving

Stopping / Proceeding at Intersections
Behavioral Driving - P.A.C.E.

Execute Safe Driving

Park To Avoid Backing
Execute Safe Driving

Limit the Number of Hours Driving a Van to 10 Per 24 Hour Period
Mandatory 30 Minute Break Every 4 Hours
Assign a Navigator to Assist the Driver
Limit Driving to Normal Hours - Refrain From Late Nights / Early Morning Trips
Keep Fuel Tank Filled to Avoid Sloshing Effect
Behavioral Driving

Using the P.A.C.E. yourself method will provide you additional *space* and *visibility* which ultimately results in additional *time to react*. 
Behavioral Driving

Commentary Drive:

- Practice P.A.C.E. driving concepts
- Identify potential and immediate hazards
- Demonstrate a 12-15 second lead time view
- Scan intersections (L-R-L)
- Properly stop and proceed at intersections
- Time lights
- What to look for in parked cars
- Maintain adequate following distances
- Drive between clusters
Behavioral Driving

**Commentary Drive:**
- Identify space around vehicle
- Define lane of least resistance
- Use brakes to communicate
- Obtain eye contact
- Cover horn and brake when potential hazards exist
- Check mirrors every 5-8 seconds
- Exercise most desirable backing options
- Accelerate and stop smoothly
# Behavioral Driving

**FIFTEEN PASSENGER VAN DRIVER EVALUATION FORM**

<table>
<thead>
<tr>
<th>Driver</th>
<th>1 – Not Practiced</th>
<th>2 – Rarely Practiced</th>
<th>3 – Occasionally Practiced</th>
<th>4 – Most often Practiced</th>
<th>5 – Always Practiced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluator</td>
<td>12345</td>
<td>12345</td>
<td>12345</td>
<td>12345</td>
<td>12345</td>
</tr>
<tr>
<td>Date</td>
<td>12345</td>
<td>12345</td>
<td>12345</td>
<td>12345</td>
<td>12345</td>
</tr>
</tbody>
</table>

**PARKING LOT COURSE**

| Lane Changes | 12345 | 12345 | 12345 | 12345 | 12345 |
| Low Speed | 12345 | 12345 | 12345 | 12345 | 12345 |
| Higher Speed | 12345 | 12345 | 12345 | 12345 | 12345 |
| Turning | 12345 | 12345 | 12345 | 12345 | 12345 |
| Left | 12345 | 12345 | 12345 | 12345 | 12345 |
| Right | 12345 | 12345 | 12345 | 12345 | 12345 |
| 3 Point Turn Around | 12345 | 12345 | 12345 | 12345 | 12345 |
| Weaving Between Cones | 12345 | 12345 | 12345 | 12345 | 12345 |
| Braking | 12345 | 12345 | 12345 | 12345 | 12345 |
| Rapid Braking While Going Straight | 12345 | 12345 | 12345 | 12345 | 12345 |
| Braking During a Curve | 12345 | 12345 | 12345 | 12345 | 12345 |
| Parking | 12345 | 12345 | 12345 | 12345 | 12345 |

**ON THE ROAD**

| Plan Ahead | 12345 | 12345 | 12345 | 12345 | 12345 |
| Prior to Departure Examines Vehicle: | 12345 | 12345 | 12345 | 12345 | 12345 |
| Check Tire Pressure (posted on tire) | 12345 | 12345 | 12345 | 12345 | 12345 |
| Review Loading (passengers and cargo) | 12345 | 12345 | 12345 | 12345 | 12345 |

**Plans Trip**

| Identifies Distant Relevant Objects | 12345 | 12345 | 12345 | 12345 | 12345 |
| Drives within visibility limitations | 12345 | 12345 | 12345 | 12345 | 12345 |

**Analyze Surroundings**

| Clears intersection (L – R – L) | 12345 | 12345 | 12345 | 12345 | 12345 |
| Compensates for potential hazards | 12345 | 12345 | 12345 | 12345 | 12345 |
| Adjusts speed to meet environment | 12345 | 12345 | 12345 | 12345 | 12345 |
| Mirror check intervals | 12345 | 12345 | 12345 | 12345 | 12345 |

**Communicates**

| Proper use of lights | 12345 | 12345 | 12345 | 12345 | 12345 |
| Properly uses turn signals, flashers, brake lights | 12345 | 12345 | 12345 | 12345 | 12345 |
| Covers horn / sounds when needed | 12345 | 12345 | 12345 | 12345 | 12345 |
| Stays out of others blind spots | 12345 | 12345 | 12345 | 12345 | 12345 |
| Seeks eye contact with other drivers | 12345 | 12345 | 12345 | 12345 | 12345 |

**Execute**

| Maintains proper space around vehicle (no tail-gating) | 12345 | 12345 | 12345 | 12345 | 12345 |
| Choose lane of least resistance | 12345 | 12345 | 12345 | 12345 | 12345 |
| Stopping and proceeding at intersections | 12345 | 12345 | 12345 | 12345 | 12345 |
| Positions vehicle to eliminate risk (turning/backing) | 12345 | 12345 | 12345 | 12345 | 12345 |

**Training Successfully Completed**

| Incomplete Training | 12345 | 12345 | 12345 | 12345 | 12345 |

**Comments:**
Behavioral Driving

Driving Skills Course
Behavioral Driving - P.A.C.E.

Safety is a Behavioral Issue