

Damage To State Property Assessments



What is DSP?

- Damage to State Property is a program developed to improve the states ability to collect money from insurance companies after an accident.
- The program uses cost estimates for the most commonly hit items
- This presentation will describe how to properly use those estimates when assessing damage after an accident.



How To Assess

Electronic or paper versions of the estimate form can be used to assess the damage.

Recommend using electronic version when possible

Check	Quantity	Unit	Check	Quantity	Unit
Guards/Rail and Treatments					
Guardrail W Beam		LFT	Barrels		EA
Guardrail Thrie Beam		LFT	Cartridge		EA
Guardrail Curved Beam		LFT	Cartridge Unit Nose		EA
Guardrail Transition		EA	Cartridge Unit Fender Panel		EA
Guardrail Post Rebar		EA	Cartridge Unit Diaphragm		EA
Guardrail Post Plumb		EA	Rip Plate		EA
Guardrail Block		EA	Rip Plate Unit Nose		EA
ET or SRT Replace Head		EA	Rip Plate Unit Fender Panel		EA
ET or SRT Resue Head		EA	Rip Plate Unit Diaphragm		EA
ET or SRT Rail		LFT	REACT - Repair		EA
ET or SRT Post		EA	REACT - Parts Damaged		EA
ET or SRT Anchor		EA	SC1 - Mount		EA
CAT Nose		EA	SC1 - Parts Damaged		EA
CAT Strap		EA			
CAT Anchor System		EA	Signs		
			Sheet Sign Set		EA
			Sheet Sign Sheeting		SFT
			Sheet Sign Post		LFT
			Rapid Response Stop/Yield Sign		EA
			Panel Sign Set		EA
			Panel Sign Aluminum Panel		EA
			Panel Sign Overlay Sheeting		SFT
			I-Beam, Sign < 110 SFT		EA
			I-Beam, Sign < 154 SFT		EA
			I-Beam, Sign < 200 SFT		EA
			I-Beam, Sign > 200 SFT		EA
Miscellaneous					
Cable Barrier, Retention		EA	Sheet Sign Set		EA
Cable Barrier Posts		EA	Sheet Sign Sheeting		SFT
Cable Barrier Anchor Posts		EA	Sheet Sign Post		LFT
Traffic Control, Interstate		HS	Rapid Response Stop/Yield Sign		EA
Traffic Control, Non Inter.		HS	Panel Sign Set		EA
Leadline		LFT	Panel Sign Aluminum Panel		EA
Repair Grade		LFT	Panel Sign Overlay Sheeting		SFT
Substation		EA	I-Beam, Sign < 110 SFT		EA
Fence		LFT	I-Beam, Sign < 154 SFT		EA
No Repair Needed			I-Beam, Sign < 200 SFT		EA
			I-Beam, Sign > 200 SFT		EA

Additional Damages
Includes anything electrical, fixtures, lights, signals, bridges, pavement damage, ITS Equipment, cabinets, overhead signs, or anything else that would cause additional cost.

Explain Additional Costs

Signature: _____ Date: _____



<http://www.digitaltrends.com>



<http://www.trimble.com/junost.shtml>



Categories of Damage

- Guardrail / End Treatments
- Attenuators
- Signs (Sheet Sign and Panel Signs)
- Miscellaneous
- Additional Damages



Categories of Damage

- If you are ever unsure about what is damaged or damage does not correctly fit any items, select “Additional Damages” and write what is damaged.
 - Ex: Signal Cabinet, Bridge, Pavement Damage, Unique Attenuators, Cable Barrier Cut, etc.
- If no repairs will ever be performed, select “No Repairs Needed”
 - Ex: Guardrail has a small ding, but is still functional



Guardrail

- Guardrail will now consist of more components
 - W Beam, Thrie Beam, Curved Beam, Post Replace, Block, Post Plumb, and Transition



Guardrail

- W Beam – Most typical guardrail beam.
- Thrie Beam – Larger size of guardrail beam.
- Curved Beam – Any beam that has curve in it.
 - Record entire length of piece that will need to be replaced. Usually 25' or 12.5' sections.



Guardrail

- Transition – This includes W-beam to Thrie Beam, or connecting beam to barrier wall
- Post Replace – Post cannot be reused. Can be wood or metal.
- Post Plumb – Post can be reused, and just needs to be reset
- Block – Wood block or metal bracket that holds the beam to the post.



Guardrail

Blocks – these are wooden, but can be metal. None are damaged here.



Post Pumb – Post is at an angle, but is not damaged.

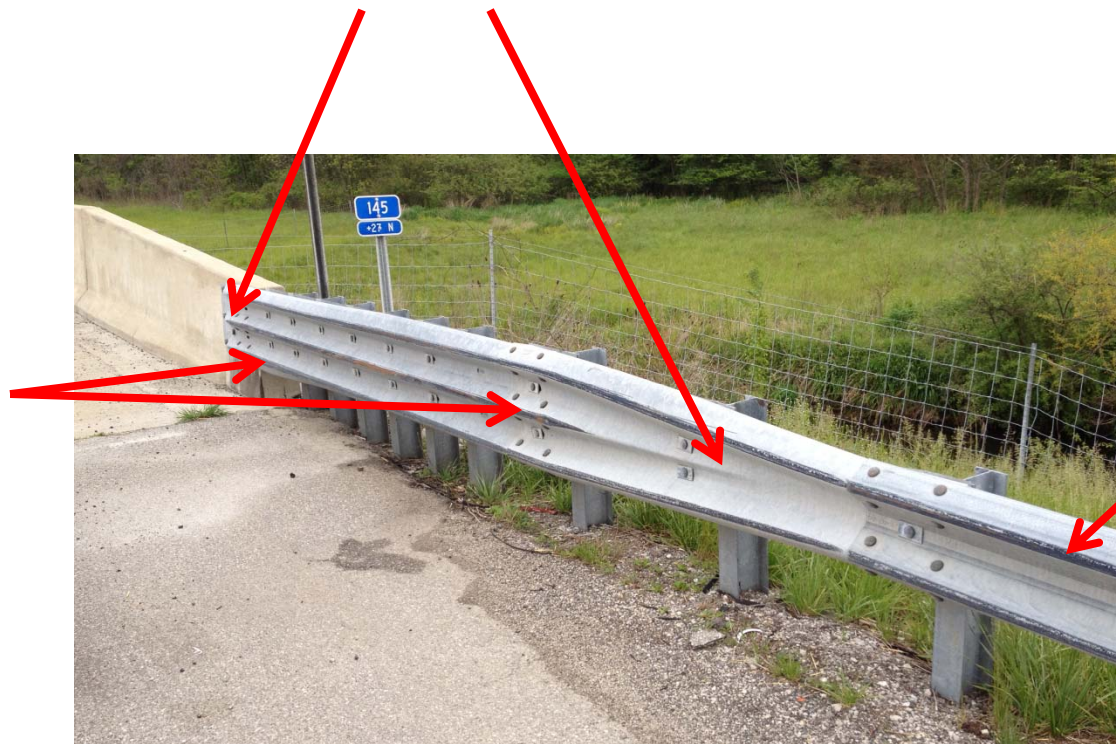
W Beam – Report entire length if it will be replaced. If unsure about replacement, leave W-Beam blank and select “Additional Damages”. Then explain the condition of the beam.



Guardrail

Transitions – Beam to Wall on left and W beam to Thrie beam on right. If both were damaged, mark 2 transitions.

Thrie Beam –
Can also be found on regular runs of guardrail. Report entire length that will need replaced.



W Beam



Guardrail End Treatments (GRET)

- Used to protect traffic at the beginning of guardrail runs.
- There are two types of GRET's
 - ET or SKT
 - CAT
- A sheet sign may be used to inform motorists of the hazard. If the sign is damaged, both the sign and GRET should be assessed.



ET or SKT End Treatments

- The ET or SKT have an extruder head that curls the guardrail as it is pushed through.

ET PLUS



<http://www.highwayguardrail.com/products/etplus.html>

SKT



<http://www.roadsystems.com/skt.html>



ET or SKT End Treatments

Rail:

The rail is recorded as one 25' piece. After that piece, mark damage as guardrail.



Extruder Head:

Can often be reused.

Posts: can be wood or metal.

Hinged posts can be knocked over without being damaged.

Anchorage System:

Can be reused if parts are located and appear in good shape.

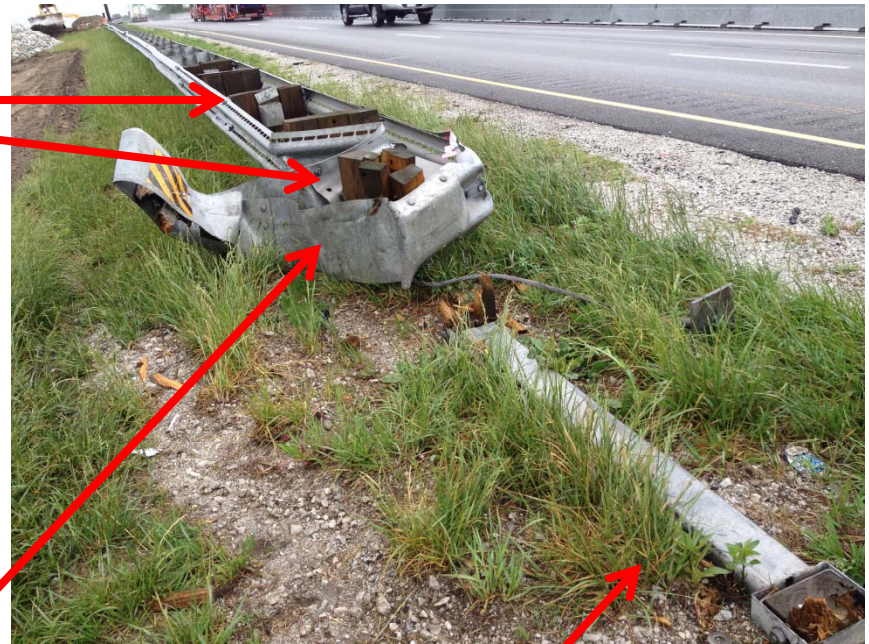


CAT End Treatments

One of the Stages: Each CAT has two stages (areas with slotted rail). Includes rail on both sides, posts, and hardware. One stage is damaged on the right.



Nose: Almost always damaged



Anchor System: can sometimes be reused like this one.



Attenuators

- Protect traffic from solid objects, typically in medians, but not always.
- The following will discuss the different types of attenuators, how to recognize them, and how to determine the damage
- There will be different damages for each attenuator. Select all that apply.



Barrels

- Location: Typically interstate overpasses
- Each barrel damaged is to be marked as 1 regardless of size or severity of damage



<http://mainstreetmaterials.com/products/safety-equipment/crash-barrels/>



Cartridge Attenuators

- Common types include QuadGuard, Tau, Hex-Foam, GREAT.
- Cartridges in the attenuator designed to be crushed during an accident
- Damage Categories include cartridge, nose, fender panel, and diaphragm



Cartridge Attenuators

Cartridge:

Mark the number of cartridges with any damage

Diaphragm:

Mark if broken or twisted. Not very common



<http://www.enterpriseflasher.com/assets/images/photo-quadguard-sys1.jpg>

Nose:

Mark if any damage

Fender Panel:

Mark if bent enough system would not properly telescope.



Rip Plate Attenuators

- Common types include the TRACC
- Uses perforated metal plate in bottom instead of cartridges
- Damage categories include rip plate, nose, fender panel, and diaphragm



TRACC™ FAMILY

<http://www.highwayguardrail.com/products/images/butCrashTracc.jpg>



RIP Plate Attenuator



Diaphragm:
Mark if broken or twisted. Not very common.

Fender Panel:
Mark each panel bent enough that system would not be able to pull back.

Rip Plate:
Mark all with any damage to them.

Nose:
Mark if damaged

TRACC™ FAMILY

<http://www.highwayguardrail.com/products/images/butCrashTracc.jpg>



Attenuator Damages Recap

- Cartridge Damage: Number of cartridges with any damage on them.
- Rip Plate: Metal plate in bottom of some attenuators. Used instead of cartridges. Count number of plates with any damage.
- Nose: the front piece of attenuator. Will likely be damaged on any front hit.
- Fender Panel: Meant to telescope in. Damaged if bent or unable to pull back out.
- Diaphragm: Metal frame on inside of units. Damaged if broken or twisted.



Recoverable Attenuators

- REACT's and SCI's are meant to be hit with little maintenance costs.
- They typically are pulled out and reset
- Large hits may cause damage



REACT Attenuator

- Will partially rebound on its own
- If a REACT is hit without noticeable damage to the system mark it as a reset



<http://ibtta.multiview.com/userlogo/ibtta/ps/3888v4v1.jpg>



REACT Attenuator

- System is damaged if any barrels are cracked or cable assemblies broken
- It is okay if the barrels do not return to being perfectly round



SCI Attenuator

- Uses a hydraulic cylinder to absorb energy. Will not rebound after a hit
- If no parts appear broken, mark it as a reset
- If there appears to be any non typical damage from a large hit mark it as damaged



http://www.stinson.ca/product_details.php?category_id=147&item_id=571&tab=images



<http://ibta.multiview.com/userlogo/ibtta/ps/3888v4v1.jpg>



Sheet Signs

- There are 4 possible choices for sheet signs
 - Sheet Sign Hit
 - Post Damage
 - Sign Damage
 - Rapid Response – Stop/Yield Sign



Sheet Signs

Select all items applicable to the damaged sign

- Sheet Sign Hit

- Mark this for every sheet sign structure involved in an accident
- Covers cost of equipment and man hours for traveling out to the sign

- Post Damaged

- Mark how many posts are damaged and will need to be replaced



Sheet Signs

- Sign Damaged
 - Record the square footage of the sign if it is damaged
- Rapid Response – Stop/Yield Sign
 - Covers additional cost of signs that require immediate replacement or a temporary sign (Stop Signs)



983flyfm.com



Sheet Signs

Sign Hit:

Sheet sign involved in accident, so mark this.

Sign: Not damaged here. If it was, measure area in square feet and record.



Post:

Damaged, so record the length of the post in feet.

Urgent Response:

Stop sign requires immediate replacement or a temporary sign, so mark this

<http://www.annarbor.com/news/dexter/more-annarborcom-photos-from-the-tornado-aftermath-in-dexter/>



Panel Signs

- There are 4 possible choices for panel signs
 - Panel Sign Hit
 - Aluminum Panel
 - Overlay Sheeting
 - I-Beams: four choices depending on sign size



Panel Signs

As with Sheet Signs, select all items that apply to the sign

- Panel Sign Hit: Covers the cost of visiting the sign and installing/resetting sign.
- Aluminum Panel: Count the number of aluminum panels on the sign damaged.



Panel Signs

- Overlay Sheeting: Sheet sign material that is bolted onto the panel sign. Not all signs will have this. Report square feet of damaged section
- I-Beams: Damaged if it is bent, twisted or cracked. There are four I-Beam choices based on sign area. Measure approximate area of the sign and mark the beam that relates to that area.



Panel Signs

Panel Sign Hit: Mark one because a sign was in accident



I-Beam:

Count each damaged beam. Measure sign and report under correct size.

Aluminum Panels:

Main structure of sign underneath sheeting. Report the number of panels that are damaged.

Overlay Sheeting:

Not on all signs. Also look at Exit Numbers at top of signs. Measure SFT of overlay sheet if damaged.



Miscellaneous

- Cable Barriers
- Traffic Control
- Seeding
- Repair Grade
- Delineators
- Fence
- No Repairs Needed



Cable Barriers

- Found in grass medians typically along interstates



Cable Barriers

- Post Damaged – Any standard post that is bent or broken
- Retention – Any barrier run that is not taught.
- Anchor Post Damaged – Any anchor post that has been hit. Anchor posts are any post near the beginning/end of a run that appear different than the typical posts in any way.



Cable Barriers

Retention System

Cables have slack in them and will need to be retained. Record the number of cables with slack. (Up to 4 per system)



Anchor Hit

The first few posts of the system can be part of the anchor. These posts are much more expensive than the regular posts.



Sometimes anchor is intentionally pushed over to detention the system. If this happens, the anchor does not need to be marked as damaged.



Traffic Control

- Use when accident causes road to be closed down. NOT when repairs require road to be closed.
- Costs will be based off of actuals.
- If known exactly what was used, comment it in the notes.



Seeding and Repair Grade

- Repair grade if there are deep ruts
- Seeding if grass if area is missing
- Both are measured in square feet
- Will likely only happen when ground is wet
- Can be required due to spill or fire



nascarinformeronline.com



Seeding and Repair Grade

Calculating area of seeding and repairing grade



Total Area = Length x Width = 40' x 10' = 400 SFT



Delineators

- Reflective posts to help keep cars on the road.
- Typically plastic, but can be metal with a reflector button.



Fence

- Farm fence or chain link metal fence
- Recorded the number of feet damaged
- No separate items for posts, fence, etc



Additional Damages

- Can be anything that does not fit one of the items
 - Ex: Bridge, lighting, ITS Equipment, etc.
- Can be used if you are unsure about what to select
 - Ex: Will guardrail beam be replaced? What parts of attenuator need repaired?
 - It is preferred to select "Additional Damages" than selecting something incorrectly



Additional Damages

- Explain why Additional Damages has been selected.
- Good pictures may allow someone with more expertise to determine damage without visiting the site.



Questions

