

DATA	Veh 1:	Veh 2:		
Veh Wt:	3908.00	0.00		
Pass Wt:	220.00	0.00		
Hood Ht (ft):	2.67	32.00		
Ped Wt:	49.00			
Ped Ht (ft):	5.83	70.00		
Ped F:	0.511			
1. Ped C/M (ft):	3.33	40.00		
1. Ped AirD:	28.00		Drag Tests:	
1. Ped Throw:	34.75		Weight:	44 lb
1. Ped Slide:	6.75		# Tests:	10
1. 1st Evid:			Results:	20 24
1. Braking?:	Y			22 23
1. Imp - VFrt:	26.00			22 24
1. VC Speed:	29.30			23 22
1. VC Mu:	0.77			23 22
1. VC Dist:	38.50			
1. Pre-Skid:	12.50		Totals:	225
1. Radar (Braking):			Avg:	22.50
1. Radar (Impact):			Calc'd F:	0.511
2. Ped C/M (ft):	3.58	43.00		
2. Ped AirD:	30.00		Instructor 1:	Mike Reade
2. Ped Throw:	37.17		Instructor 2:	Tony Becker
2. Ped Slide:	7.17			
2. 1st Evid:	16.87			
2. Braking?:	Y			
2. Imp - VFrt:	26.75		Take-Off Angles:	
2. VC Speed:	30.80			
2. VC Mu:	0.76		Minimum:	10 degrees
2. VC Dist:	42.20		Maximum:	20 degrees
2. Pre-Skid:	15.45			
2. Radar (Braking):			Carry Distances:	
2. Radar (Impact):				
3. Ped C/M (ft):	3.50	42.00	Carry Test 1:	2.18 ft
3. Ped AirD:	35.50		Carry Test 2:	4.40 ft

Inches to Decimal Feet:		
1 inch =		0.08 feet
2 inches =		0.17 feet
3 inches =		0.25 feet
4 inches =		0.33 feet
5 inches =		0.42 feet
6 inches =		0.50 feet
7 inches =		0.58 feet
8 inches =		0.67 feet
9 inches =		0.75 feet
10 inches =		0.83 feet
11 inches =		0.92 feet
12 inches =		1.00 feet

3. Ped Throw:	48.50
3. Ped Slide:	13.00
3. 1st Evid:	0.00
3. Braking?:	Y
3. Imp - VFrt:	31.76
3. VC Speed:	31.20
3. VC Mu:	0.80
3. VC Dist:	41.90
3. Pre-Skid:	10.14
3. Radar (Braking):	
3. Radar (Impact):	

Carry Test 3:	2.79 ft
Carry Test 4:	2.46 ft
Carry Test 5:	1.73 ft
Carry Test 6:	2.25 ft
Carry Test 7:	3.74 ft
Carry Test 8:	3.41 ft
Carry Test 9:	1.65 ft
Carry Test 10:	ft

4. Ped C/M (ft):	3.42	41.00
4. Ped AirD:	24.50	
4. Ped Throw:	29.67	
4. Ped Slide:	5.17	
4. 1st Evid:	15.25	
4. Braking?:	Y	
4. Imp - VFrt:	21.00	
4. VC Speed:	31.20	
4. VC Mu:	0.77	
4. VC Dist:	43.60	
4. Pre-Skid:	22.60	
4. Radar (Braking):		
4. Radar (Impact):		

Video/Actual Take-off Angles:	
Carry Test 1:	9 Degrees
Carry Test 2:	4 Degrees
Carry Test 3:	2 Degrees
Carry Test 4:	6 Degrees
Carry Test 5:	5 Degrees
Carry Test 6:	6 Degrees
Carry Test 7:	6 Degrees
Carry Test 8:	8 Degrees
Carry Test 9:	6 Degrees
Carry Test 10:	Degrees

5. Ped C/M (ft):	3.58	43.00
5. Ped AirD:	40.00	
5. Ped Throw:	57.50	
5. Ped Slide:	17.50	
5. 1st Evid:	5.50	
5. Braking?:	Y	
5. Imp - VFrt:	50.68	
5. VC Speed:	36.00	
5. VC Mu:	0.77	
5. VC Dist:	56.10	
5. Pre-Skid:	5.42	
5. Radar (Braking):		

5. Radar (Impact):		
6. Ped C/M (ft):	3.67	44.00
6. Ped AirD:	54.68	
6. Ped Throw:	81.17	
6. Ped Slide:	26.49	
6. 1st Evid:	4.50	
6. Braking?:	N	
6. Imp - VFrt:	62.51	
6. VC Speed:	38.40	
6. VC Mu:	0.77	
6. VC Dist:	63.83	
6. Pre-Skid:	1.32	
6. Radar (Braking):		
6. Radar (Impact):	38.00	
7. Ped C/M (ft):		
7. Ped AirD:	3.25	39.00
7. Ped Throw:	47.58	
7. Ped Slide:	85.42	
7. 1st Evid:	37.84	
7. Braking?:	5.00	
7. Imp - VFrt:	Y	73.25
7. VC Speed:	73.10	
7. VC Mu:	40.30	
7. VC Dist:	0.77	
7. Pre-Skid:	73.10	
7. Radar (Braking):	0.00	
7. Radar (Impact):		
8. Ped C/M (ft):		
8. Ped AirD:	3.58	43.00
8. Ped Throw:	43.58	
8. Ped Slide:	72.25	
8. 1st Evid:	28.67	
8. Braking?:	1.00	
8. Imp - VFrt:	Y	
8. VC Speed:	73.25	
8. VC Mu:	40.70	
	0.73	

8. VC Dist:	76.90	
8. Pre-Skid:	3.65	
8. Radar (Braking):		
8. Radar (Impact):		
9. Ped C/M (ft):	4.00	48.00
9. Ped AirD:	37.00	
9. Ped Throw:	62.92	
9. Ped Slide:	25.92	
9. 1st Evid:	-2.50	
9. Braking?:	Y	
9. Imp - VFrt:	73.67	
9. VC Speed:	41.20	
9. VC Mu:	0.74	
9. VC Dist:	79.20	
9. Pre-Skid:	5.53	
9. Radar (Braking):		
9. Radar (Impact):		
10. Ped C/M (ft):	0.00	
10. Ped AirD:		
10. Ped Throw:		
10. Ped Slide:	0.00	
10. 1st Evid:		
10. Braking?:		
10. Imp - VFrt:		
10. VC Speed:		
10. VC Mu:		
10. VC Dist:		
10. Pre-Skid:	0.00	
10. Radar (Braking):		
10. Radar (Impact):		



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Date: 12-Aug-15

Place: Jacksonville, FL

Veh One:
 1999 Ford Crown Vic
 OL: 212.00 in
 OW: 78.40 in
 WB: 114.70 in
 FOH: 42.60 in
 ROH: 54.80 in
 Weight: 3908.00 lb
 Hood H: 32.00 in

Searle (Angle):

$$V = \frac{\sqrt{2 \times \mu \times g \times d}}{[\cos \theta + (\mu \times \sin \theta)]}$$

Searle Maximim:

$$V_{\max} = \sqrt{2 \times \mu \times g \times d}$$

Searle (Mass & Carry):

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

Searle Minimum:

$$V_{\min} = \sqrt{\frac{2 \times \mu \times g \times d}{1 + \mu^2}}$$

Crash Data:	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7	Test 8	Test 9	Test 10
Ped Ht (ft):	5.83	5.83	5.83	5.83	5.83	5.83	5.83	5.83	5.83	N/A
Ped C/M Ht (ft):	3.33	3.58	3.50	3.42	3.58	3.67	3.25	3.58	4.00	N/A
Ped Slide D (ft):	6.75	7.17	13.00	5.17	17.50	26.49	37.84	28.67	25.92	N/A
Airborne D (ft):	28.00	30.00	35.50	24.50	40.00	54.68	47.58	43.58	37.00	N/A
Ped f-Value:	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	N/A
Throw D (ft):	34.75	37.17	48.50	29.67	57.50	81.17	85.42	72.25	62.92	N/A
Takeoff (Min):	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	N/A
Takeoff (Max.):	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	N/A
1st Evid. (ft):	0.00	16.87	0.00	15.25	5.50	4.50	5.00	1.00	-2.50	N/A
Ped Weight (lb):	49.00	49.00	49.00	49.00	49.00	49.00	49.00	49.00	49.00	N/A
Vehicle Data:										
Hood Height (ft):	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	N/A
C/M - Hood Change (ft):	0.67	0.92	0.83	0.75	-28.42	-28.33	0.58	0.92	1.33	N/A
Braking (Yes=Y/No=N):	Y	Y	Y	Y	Y	N	Y	Y	Y	N/A
Skid Total (ft):	38.50	42.20	41.90	43.60	56.10	63.83	73.10	76.90	79.20	N/A
Skid to Impact (ft):	12.50	15.45	10.14	22.60	5.42	1.32	N/A	3.65	5.53	N/A
Road f-Value:	0.77	0.76	0.80	0.77	0.77	0.77	0.77	0.73	0.74	N/A
Impact Spd (mph):	23.88	24.40	27.05	21.21	34.22	38.00	40.30	39.71	39.68	N/A
Radar (Start Braking):	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Radar (Impact):	N/A	N/A	N/A	N/A	N/A	38.00	N/A	N/A	N/A	N/A
Speed Acquired (%)	86%	87%	90%	90%	77%	83%	80%	75%	70%	N/A

Disclaimer: Documentaion is provided to supplement IPTM Crash Testing.
 Additional training may be required to fully understand the technical analysis.



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Test 1



Searle Analysis: (1983)

Searle (10 Degree) Takeoff:	21.51 mph
Searle (20 Degree) Takeoff:	20.72 mph
Searle Minimum Formula:	20.56 mph
Searle Maximum Formula:	23.09 mph

NEW Searle Formulae Analysis:

Vehicle Weight: (M)	3,908.00 lb
Pedestrian Weight: (m)	49 lb
Ped C/M Height: (H)	3.33 feet

Vehicle Speed Analysis:

Vehicle Speed - Start of Braking:	29.30 mph
Vehicle Speed - Impact:	23.88 mph
Radar Speed - Start of Braking:	N/A mph
Radar Speed - Impact:	N/A mph
IMPACT SPEED To Be Used:	23.88 mph

Searle Minimum Analysis: (1993, 2009)

$$V_{\min} = \sqrt{\frac{2\mu g(d - \mu H)}{1 + \mu^2}}$$

$$= 20.05 \text{ mph}$$

Other Calculations:

Speed (With Adjusted Data):	20.94 mph
Throw Minus Carry Distance:	32.57 feet
Location of First Evidence:	0.0 feet
% of Speed Attained (Ped):	86%
Difference (C/M vs. Hood H):	0.7 feet
Takeoff From Video (Degrees):	9 Degrees
Carry Distance:	2.18 feet

Searle Minimum Analysis: (2009)

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

$$= 20.15 \text{ mph}$$

(Percentage is determined by dividing Searle Minimum result by Vehicle Impact Speed)

Disclaimer: Documentaion is provided to supplement IPTM Crash Testing.
Additional training required to fully understand the technical analysis.



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Test 2



Searle Analysis: (1983)

Searle (10 Degree) Takeoff:	22.24 mph
Searle (20 Degree) Takeoff:	21.42 mph
Searle Minimum Formula:	21.26 mph
Searle Maximum Formula:	23.88 mph

NEW Searle Formulae Analysis:

Vehicle Weight: (M)	3,908.00 lb
Pedestrian Weight: (m)	49 lb
Ped C/M Height: (H)	3.58 feet

Vehicle Speed Analysis:

Vehicle Speed - Start of Braking:	30.80 mph
Vehicle Speed - Impact:	24.40 mph
Radar Speed - Start of Braking:	N/A mph
Radar Speed - Impact:	N/A mph
IMPACT SPEED To Be Used:	24.40 mph

Searle Minimum Analysis: (1993, 2009)

$$V_{\min} = \sqrt{\frac{2\mu g(d - \mu H)}{1 + \mu^2}}$$

$$= 20.73 \text{ mph}$$

Other Calculations:

Speed (With Adjusted Data):	21.70 mph
Throw Minus Carry Distance:	32.77 feet
Location of First Evidence:	16.9 feet
% of Speed Attained (Ped):	87%
Difference (C/M vs. Hood H):	0.9 feet
Takeoff From Video (Degrees):	4 Degrees
Carry Distance:	4.40 feet

Searle Minimum Analysis: (2009)

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

$$= 20.21 \text{ mph}$$

(Percentage is determined by dividing Searle Minimum result by Vehicle Impact Speed)

Disclaimer: Documentaion is provided to supplement IPTM Crash Testing.
Additional training required to fully understand the technical analysis.



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Test 3



Searle Analysis: (1983)

Searle (10 Degree) Takeoff:	25.41 mph
Searle (20 Degree) Takeoff:	24.47 mph
Searle Minimum Formula:	24.29 mph
Searle Maximum Formula:	27.28 mph

NEW Searle Formulae Analysis:

Vehicle Weight: (M)	3,908.00 lb
Pedestrian Weight: (m)	49 lb
Ped C/M Height: (H)	3.50 feet

Vehicle Speed Analysis:

Vehicle Speed - Start of Braking:	31.20 mph
Vehicle Speed - Impact:	27.05 mph
Radar Speed - Start of Braking:	N/A mph
Radar Speed - Impact:	N/A mph
IMPACT SPEED To Be Used:	27.05 mph

Searle Minimum Analysis: (1993, 2009)

$$V_{\min} = \sqrt{\frac{2\mu g(d - \mu H)}{1 + \mu^2}}$$

$$= 23.83 \text{ mph}$$

Other Calculations:

Speed (With Adjusted Data):	26.03 mph
Throw Minus Carry Distance:	45.71 feet
Location of First Evidence:	0.0 feet
% of Speed Attained (Ped):	90%
Difference (C/M vs. Hood H):	0.8 feet
Takeoff From Video (Degrees):	2 Degrees
Carry Distance:	2.79 feet

Searle Minimum Analysis: (2009)

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

$$= 23.87 \text{ mph}$$

(Percentage is determined by dividing Searle Minimum result by Vehicle Impact Speed)

Disclaimer: Documentaion is provided to supplement IPTM Crash Testing.
Additional training required to fully understand the technical analysis.



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Test 4



Searle Analysis: (1983)

Searle (10 Degree) Takeoff:	19.87 mph
Searle (20 Degree) Takeoff:	19.14 mph
Searle Minimum Formula:	19.00 mph
Searle Maximum Formula:	21.33 mph

NEW Searle Formulae Analysis:

Vehicle Weight: (M)	3,908.00 lb
Pedestrian Weight: (m)	49 lb
Ped C/M Height: (H)	3.42 feet

Vehicle Speed Analysis:

Vehicle Speed - Start of Braking:	31.20 mph
Vehicle Speed - Impact:	21.21 mph
Radar Speed - Start of Braking:	N/A mph
Radar Speed - Impact:	N/A mph
IMPACT SPEED To Be Used:	21.21 mph

Searle Minimum Analysis: (1993, 2009)

$$V_{\min} = \sqrt{\frac{2\mu g(d - \mu H)}{1 + \mu^2}}$$

$$= 18.43 \text{ mph}$$

Other Calculations:

Speed (With Adjusted Data):	19.50 mph
Throw Minus Carry Distance:	27.21 feet
Location of First Evidence:	15.3 feet
% of Speed Attained (Ped):	90%
Difference (C/M vs. Hood H):	0.8 feet
Takeoff From Video (Degrees):	6 Degrees
Carry Distance:	2.46 feet

Searle Minimum Analysis: (2009)

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

$$= 18.42 \text{ mph}$$

(Percentage is determined by dividing Searle Minimum result by Vehicle Impact Speed)



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Test 5



Searle Analysis: (1983)

Searle (10 Degree) Takeoff:	27.66 mph
Searle (20 Degree) Takeoff:	26.65 mph
Searle Minimum Formula:	26.44 mph
Searle Maximum Formula:	29.70 mph

NEW Searle Formulae Analysis:

Vehicle Weight: (M)	3,908.00 lb
Pedestrian Weight: (m)	49 lb
Ped C/M Height: (H)	3.58 feet

Vehicle Speed Analysis:

Vehicle Speed - Start of Braking:	36.00 mph
Vehicle Speed - Impact:	34.22 mph
Radar Speed - Start of Braking:	N/A mph
Radar Speed - Impact:	N/A mph
IMPACT SPEED To Be Used:	34.22 mph

Searle Minimum Analysis: (1993, 2009)

$$V_{\min} = \sqrt{\frac{2\mu g(d - \mu H)}{1 + \mu^2}}$$

$$= 26.02 \text{ mph}$$

Other Calculations:

Speed (With Adjusted Data):	28.10 mph
Throw Minus Carry Distance:	55.77 feet
Location of First Evidence:	5.5 feet
% of Speed Attained (Ped):	77%
Difference (C/M vs. Hood H):	0.9 feet
Takeoff From Video (Degrees):	5 Degrees
Carry Distance:	1.73 feet

Searle Minimum Analysis: (2009)

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

$$= 26.37 \text{ mph}$$

(Percentage is determined by dividing Searle Minimum result by Vehicle Impact Speed)

Disclaimer: Documentaion is provided to supplement IPTM Crash Testing.
Additional training required to fully understand the technical analysis.



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Test 6



Searle Analysis: (1983)

Searle (10 Degree) Takeoff:	32.87 mph
Searle (20 Degree) Takeoff:	31.66 mph
Searle Minimum Formula:	31.42 mph
Searle Maximum Formula:	35.29 mph

NEW Searle Formulae Analysis:

Vehicle Weight: (M)	3,908.00 lb
Pedestrian Weight: (m)	49 lb
Ped C/M Height: (H)	3.67 feet

Vehicle Speed Analysis:

Vehicle Speed - Start of Braking:	38.40 mph
Vehicle Speed - Impact:	38.00 mph
Radar Speed - Start of Braking:	N/A mph
Radar Speed - Impact:	38.00 mph
IMPACT SPEED To Be Used:	38.00 mph

Searle Minimum Analysis: (1993, 2009)

$$V_{\min} = \sqrt{\frac{2\mu g(d - \mu H)}{1 + \mu^2}}$$

$$= 31.05 \text{ mph}$$

Other Calculations:

Speed (With Adjusted Data):	33.20 mph
Throw Minus Carry Distance:	78.92 feet
Location of First Evidence:	4.5 feet
% of Speed Attained (Ped):	83%
Difference (C/M vs. Hood H):	1.0 feet
Takeoff From Video (Degrees):	6 Degrees
Carry Distance:	2.25 feet

Searle Minimum Analysis: (2009)

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

$$= 31.37 \text{ mph}$$

(Percentage is determined by dividing Searle Minimum result by Vehicle Impact Speed)

Disclaimer: Documentaion is provided to supplement IPTM Crash Testing.
Additional training required to fully understand the technical analysis.



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Test 7



Searle Analysis: (1983)

Searle (10 Degree) Takeoff:	33.72 mph
Searle (20 Degree) Takeoff:	32.48 mph
Searle Minimum Formula:	32.23 mph
Searle Maximum Formula:	36.20 mph

NEW Searle Formulae Analysis:

Vehicle Weight: (M)	3,908.00 lb
Pedestrian Weight: (m)	49 lb
Ped C/M Height: (H)	3.25 feet

Vehicle Speed Analysis:

Vehicle Speed - Start of Braking:	40.30 mph
Vehicle Speed - Impact:	40.30 mph
Radar Speed - Start of Braking:	N/A mph
Radar Speed - Impact:	N/A mph
IMPACT SPEED To Be Used:	40.30 mph

Searle Minimum Analysis: (1993, 2009)

$$V_{\min} = \sqrt{\frac{2\mu g(d - \mu H)}{1 + \mu^2}}$$

$$= 31.92 \text{ mph}$$

Other Calculations:

Speed (With Adjusted Data):	33.78 mph
Throw Minus Carry Distance:	81.68 feet
Location of First Evidence:	5.0 feet
% of Speed Attained (Ped):	80%
Difference (C/M vs. Hood H):	0.6 feet
Takeoff From Video (Degrees):	6 Degrees
Carry Distance:	3.74 feet

Searle Minimum Analysis: (2009)

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

$$= 31.91 \text{ mph}$$

(Percentage is determined by dividing Searle Minimum result by Vehicle Impact Speed)

Disclaimer: Documentaion is provided to supplement IPTM Crash Testing.
Additional training required to fully understand the technical analysis.



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Test 8



Searle Analysis: (1983)

Searle (10 Degree) Takeoff:	31.01 mph
Searle (20 Degree) Takeoff:	29.87 mph
Searle Minimum Formula:	29.64 mph
Searle Maximum Formula:	33.29 mph

NEW Searle Formulae Analysis:

Vehicle Weight: (M)	3,908.00 lb
Pedestrian Weight: (m)	49 lb
Ped C/M Height: (H)	3.58 feet

Vehicle Speed Analysis:

Vehicle Speed - Start of Braking:	40.70 mph
Vehicle Speed - Impact:	39.71 mph
Radar Speed - Start of Braking:	N/A mph
Radar Speed - Impact:	N/A mph
IMPACT SPEED To Be Used:	39.71 mph

Searle Minimum Analysis: (1993, 2009)

$$V_{\min} = \sqrt{\frac{2\mu g(d - \mu H)}{1 + \mu^2}}$$

$$= 29.26 \text{ mph}$$

Other Calculations:

Speed (With Adjusted Data):	30.62 mph
Throw Minus Carry Distance:	68.84 feet
Location of First Evidence:	1.0 feet
% of Speed Attained (Ped):	75%
Difference (C/M vs. Hood H):	0.9 feet
Takeoff From Video (Degrees):	8 Degrees
Carry Distance:	3.41 feet

Searle Minimum Analysis: (2009)

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

$$= 29.30 \text{ mph}$$

(Percentage is determined by dividing Searle Minimum result by Vehicle Impact Speed)

Disclaimer: Documentaion is provided to supplement IPTM Crash Testing.
Additional training required to fully understand the technical analysis.



Pedestrian/Bicycle Crash Analysis



Instructors: Mike Reade & Tony Becker

Test 9



Searle Analysis: (1983)

Searle (10 Degree) Takeoff:	28.94 mph
Searle (20 Degree) Takeoff:	27.87 mph
Searle Minimum Formula:	27.66 mph
Searle Maximum Formula:	31.07 mph

NEW Searle Formulae Analysis:

Vehicle Weight: (M)	3,908.00 lb
Pedestrian Weight: (m)	49 lb
Ped C/M Height: (H)	4.00 feet

Vehicle Speed Analysis:

Vehicle Speed - Start of Braking:	41.20 mph
Vehicle Speed - Impact:	39.68 mph
Radar Speed - Start of Braking:	N/A mph
Radar Speed - Impact:	N/A mph
IMPACT SPEED To Be Used:	39.68 mph

Searle Minimum Analysis: (1993, 2009)

$$V_{\min} = \sqrt{\frac{2\mu g(d - \mu H)}{1 + \mu^2}}$$

$$= 27.21 \text{ mph}$$

Other Calculations:

Speed (With Adjusted Data):	29.25 mph
Throw Minus Carry Distance:	61.27 feet
Location of First Evidence:	-2.5 feet
% of Speed Attained (Ped):	70%
Difference (C/M vs. Hood H):	1.3 feet
Takeoff From Video (Degrees):	6 Degrees
Carry Distance:	1.65 feet

Searle Minimum Analysis: (2009)

$$V_{\min} = \frac{M + m}{M} \sqrt{\frac{2\mu g(d - \text{Carry})}{1 + \mu^2}}$$

$$= 27.64 \text{ mph}$$

(Percentage is determined by dividing Searle Minimum result by Vehicle Impact Speed)

Disclaimer: Documentaion is provided to supplement IPTM Crash Testing.
Additional training required to fully understand the technical analysis.