

JFK

62-109060

SERIAL 4199 EBF

PART 3

WORK
COPY

front of car does not touch line drawn
from left edge of sign 172

Line from edge of sign directs
Ko head 197

Ko head ^{left} ~~along~~ post of sign 201

Car first protrudes from
right edge of sign 205

Full face of Connally 222

Copy slides to be of frames 172
through 323.

Film Test of Muchmore Camera.

1st 40 sec.	18.8	18.6	18.9
2nd 10 sec.	18.6	18.4	19.2
3rd 10 sec.	17.6	18.1	17.3
last 5 sec.	16.	16.6	16.2

1st 10 sec.	19.2	19.2	19.6
2nd 10 sec.	18.7	19.2	18.8
3rd 10 sec.	18.0	17.9	17.0
last 5 sec.	12.6	16.4	15.8

Average 1st 10 sec. 19.05

" 2nd 10 sec 18.8

" 3rd 10 sec 17.6

Overall average 18.5

2/15/17

Mrs Marie Muchmore Film:—

Pertinent portion total 66 frames.

3rd shot on frame 42

First 12 frames not clear.

She was standing on N.W. corner
of Main + Houston

Comparison of Nix + Zapruder frames
from 3rd shot on:

- frame # 13 Rt hand up.
- .. # 44 Left hand on trunk deck
- .. # 53 Rt hand on deck
- .. # 54 One foot on bumper
- .. # 58 Jackie's knees on deck +
Will one foot on bumper.
- .. # 68 Will both feet on bumper.
- .. # 81 Jackie's head turns to start
back into car.

Wif Camera

<u>1st 10 sec</u>	<u>2nd 10 sec</u>	<u>3rd 10 sec</u>	<u>Last 5 sec</u>	<u>Average</u>
18.5	184	184	83	peak 18.433 all 18.171
185	185	186	81	peak 18.533 all 18.2
188	186	184	74	peak 18.6 all 18.057
192	189	183	77	peak 18.8 all 18.314
<u>740</u>	<u>744</u>	<u>737</u>	<u>315</u>	

Averages

$$18.5 \quad 18.6 \quad 18.425 \quad 15.75 = 17.825$$

average 18.5 (exclusive of run down end)

Miss Felton

Frame #1 is start of portion after
shots 1 and 2.

Third Shot - frame #24

Hill's head behind lamp post center

of frame # 88

- 88 frames @ 18.5
4.324 sec.

Complete blur - #123 = 6.649 sec.

Total 267 frames

Approx 200 frames at first
portion of motorcade before shots.

Total film - 467 frames @ 18.5 = 25.245
sec.

Change in frame count.

seconds.

Middle of sign to 3rd shot

$$\text{Frame } 212 \text{ to } 313 = 102 = 5.573$$

K. head after sign to 3rd shot

$$225 \text{ to } 313 = 89 = 4.863$$

K. head after sign to lamp post.

$$225 \text{ to } 272 = 48 = 2.623$$

Lamp post to 3rd shot -

$$272 \text{ to } 313 = 42 = 2.295$$

K head $\frac{1}{3}$ from edge of sign to 3rd shot

$$216 \text{ to } 313 = 98 = 5.355$$

(Above based on inclusive count)

Frame Count - Zabruder Film

From begin to "start-Stop" + pres. car.	132
First frame showing president's car	133
Frame with K head center of sign	212
Frame with K head $\frac{1}{3}$ from edge of sign	216
Full face of K after sign heard	225
President's head behind lamp post	272
Third shot	313
Hands Touch (Mrs K + Hill)	397 or 398
Bear lamp post in center frame	405
Last frame	486

Total elapsed time @ 18.3 fps

26.557

Same @ 18.1 fps = 26.850

67-219

55 Showdan Tac

~~Shadan~~

56 →



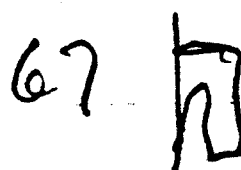
61



62

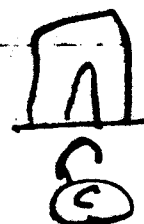


66 + A A



68 ←

73



4.917

From sign to 3rd shot 89 fr. - 4.863 sec.
 Middle of sign to 3rd shot 102 fr. - ^{5.646}5.573 sec.
 Lead edge of sign to 3rd shot 117 fr. - 6.4 sec.
 From sign to lamp post 48 fr. - 2.623 sec.
 From lamp post to 3rd shot 42 fr. - 2.225 sec.
 Pres. waving behind sign to 3rd shot 107 fr. - ^{5.847}5.824 sec.
 $\frac{1}{3}$ from edge of sign to 3rd shot 98 fr. - 5.355
 18.3 frames per second
 .05465 ~~47~~ seconds per frame

1/29/64
L

Take 1

2 to 4 = 183

4 to 6 = 185

6 to 8 = 179

8 to 10 = 178

10 to 12 = 174

2 to 12 = 899

Average speed Take 1 = 17.98

(12 to 2 area fogged)

Take 2

$$12 \text{ to } 2 = 181$$

$$2 \text{ to } 4 = 183$$

$$4 \text{ to } 6 = 184$$

$$6 \text{ to } 8 = 181$$

$$8 \text{ to } 10 = 178$$

$$10 \text{ to } 12 = 178$$

$$12 \text{ to } 12 = 1085$$

Average speed 18.083

Take 3

Too limited for accuracy

Take 4

(12 to 6 area fogged)

$$6 \text{ to } 8 = 189$$

$$8 \text{ to } 10 = 185$$

$$6 \text{ to } 10 = 374$$

Average speed 18.7

Take 5

$$12 \text{ to } 2 = 180$$

$$2 \text{ to } 4 = 185$$

$$4 \text{ to } 6 = 184$$

$$6 \text{ to } 8 = 181$$

$$8 \text{ to } 10 = 179$$

$$10 \text{ to } 12 = 176$$

$$12 \text{ to } 12 = 1085$$

Average speed 18.083

Take 6

$$12 \text{ to } 2 = 177$$

$$2 \text{ to } 4 = 181$$

$$4 \text{ to } 6 = 184$$

$$5 \text{ to } 7 = 182$$

$$\text{Total} = 724$$

Average Speed 18.1

$$\text{Take 1} = 17.980$$

$$\dots 2 = 18.083$$

$$\dots 4 = 18.700$$

$$\dots 5 = 18.083$$

$$\dots 6 = 18.100$$

$$\text{Total} = 90.946$$

Average speed 18.189

Individual average speed 18.117

Take!

1 8 3
1 8 5
1 7 9
1 7 8
1 7 4

8 9 9

179.8
5.7899

Take 2

1 6 1
1 6 3
1 8 4
1 8 1
1 7 8
1 7 8

1 0 8 5
18.083
6/10850

Take 4

18.7

169

185

374

18.7
2/374

Take 5

180
185
184
181
179
176

1085

18,083
610850

Take 6

177
181
184
182
724

18.1
4/1 724

Average of
Averages

1	7980
2	8083
4	6700
5	6083
6	8100
	90946

18.189
5 / 90.946

1 8 3
1 6 5
1 7 9
1 7 8
1 7 4
1 8 1
1 8 3
1 6 4
1 6 1
1 7 8
1 7 8
1 6 9
1 6 5
1 6 0
1 6 3
1 8 4
1 8 1
1 7 9
1 7 6
1 7 7
1 8 1
1 8 4
1 8 2

4 1 6 7

18.118

23 | 4187

23

186

184

27

23

40

170

161

9

11/2/54