Page	RTT(ms)	PLT: no TFO (s)	PLT: TFO (s)	Improv.
httpberkeleymasjid.org				
	20	3121.177	3053.639	2.16386318366
	200	5380.522	4374.197	18.7031109621
	100	3892.345	3604.517	7.39471963559
httpen.wikipedia.orgwikiImran				
	20	1182.247	724.902	38.684386596
	200	3111.626	1222.272	60.7191866889
	100	1869.922	1450.044	22.4543055807
httpwww.linkedin.cominmpaulinar				
	20	276.149	264.783	4.1158939558
	200	790.907	699.686	11.5337201466
	100	514.041	319.829	37.7814221045

1. Berkeley Masjid --

httpberkeleymasjid.org

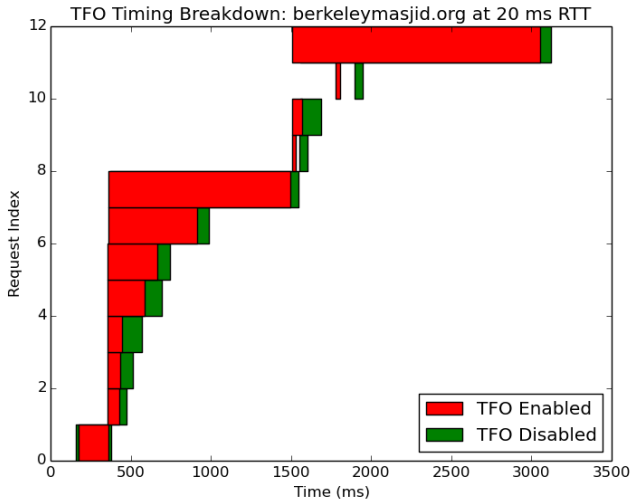
a. What effect does TFO have on the timing?
The timing is a lot faster in TFO when compared to NON-TFO

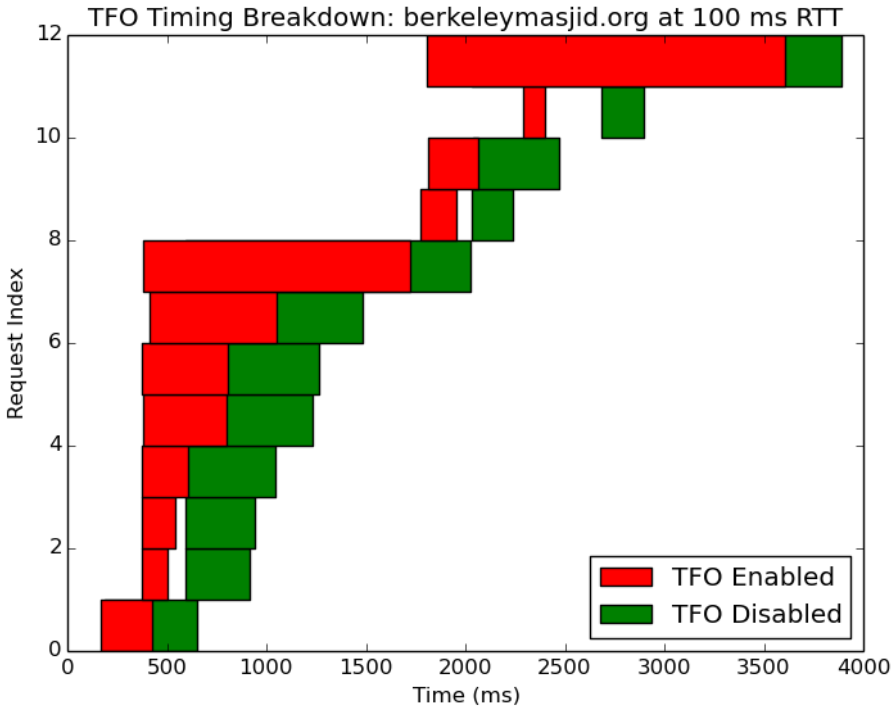
b. How does the RTT value affect these results?
The higher the Round Time Trip the more improvement in TFO when compared to NON-TFO

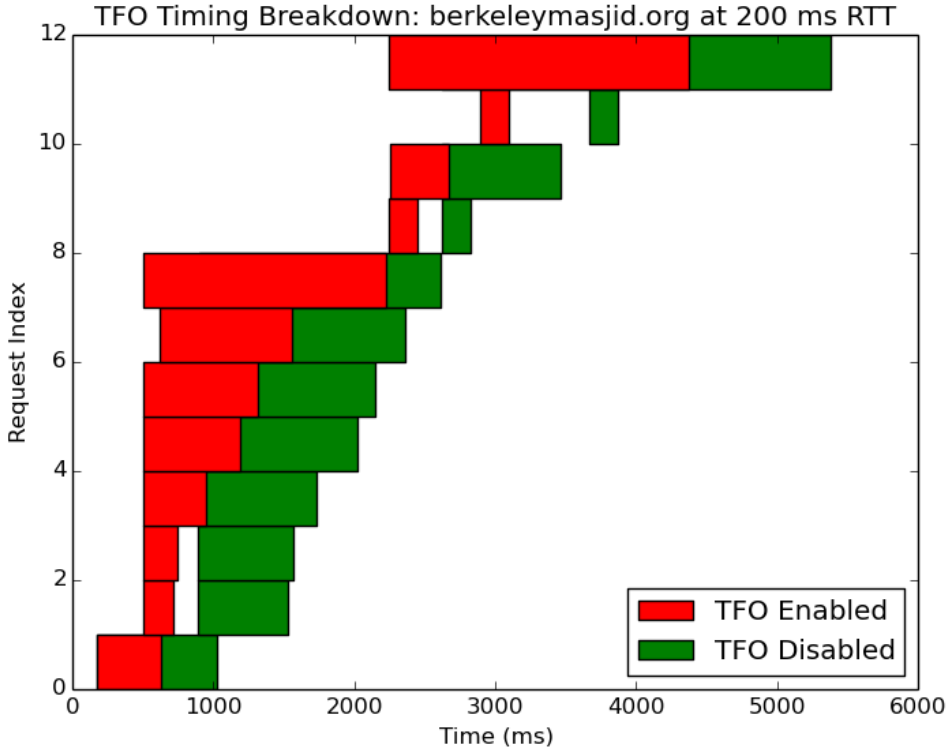
c. Does the particular content available at this URL lend itself to performance enhancements provided by TFO?
Yes.

d. Were these results surprising in any way?
No, it was very expected .

e. Relevent Graphs →




TFO Timing Breakdown: berkeleymasjid.org at 100 ms RTT
Request Index
Time (ms)
TFO Enabled
TFO Disabled
0
2
4
6
8
10
12
0
500
1000
1500
2000
2500
3000
3500
4000


TFO Timing Breakdown: berkeleymasjid.org at 200 ms RTT
Request Index
Time (ms)
TFO Enabled
TFO Disabled
0
2
4
6
8
10
12
0
1000
2000
3000
4000
5000
6000

2. WikiPedia - Imran

httpen.wikipedia.orgwikiImran

f. What effect does TFO have on the timing?
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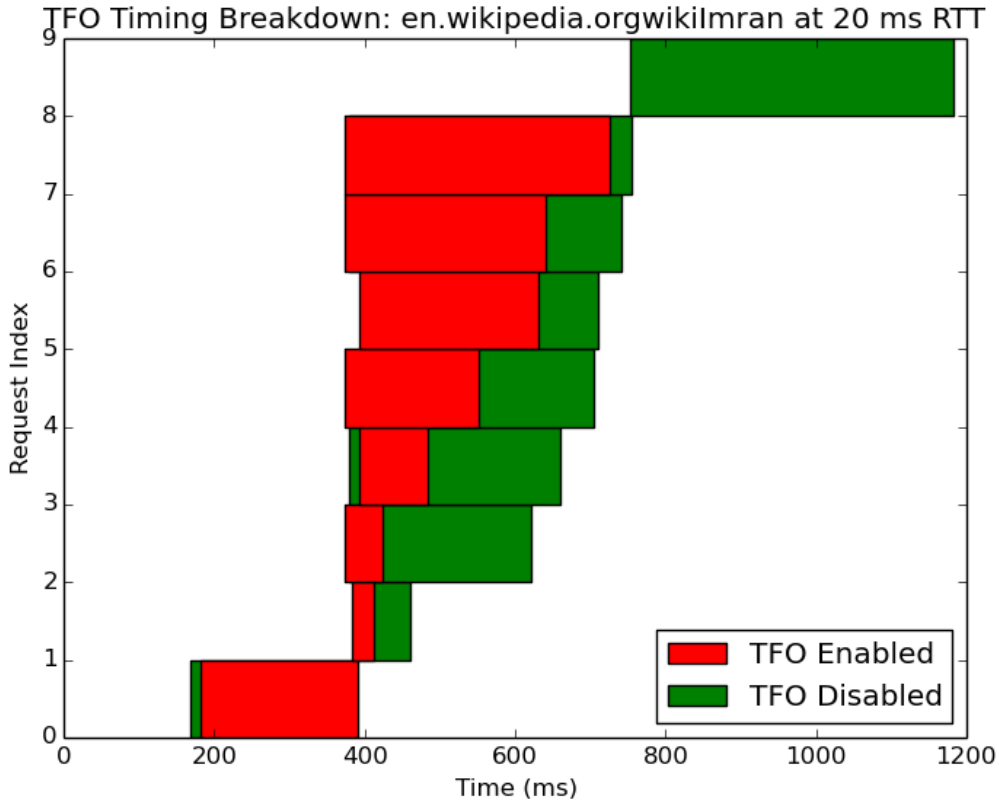
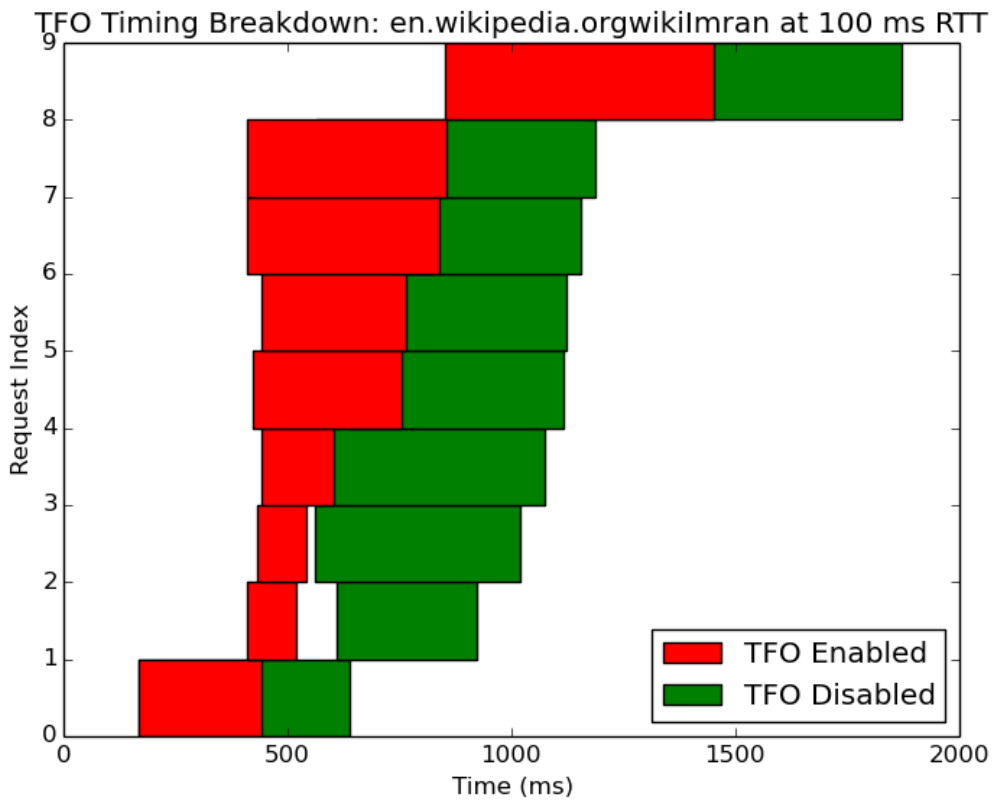
g. How does the RTT value affect these results?
The higher the Round Time Trip the more improvement in TFO when compared to NON-TFO

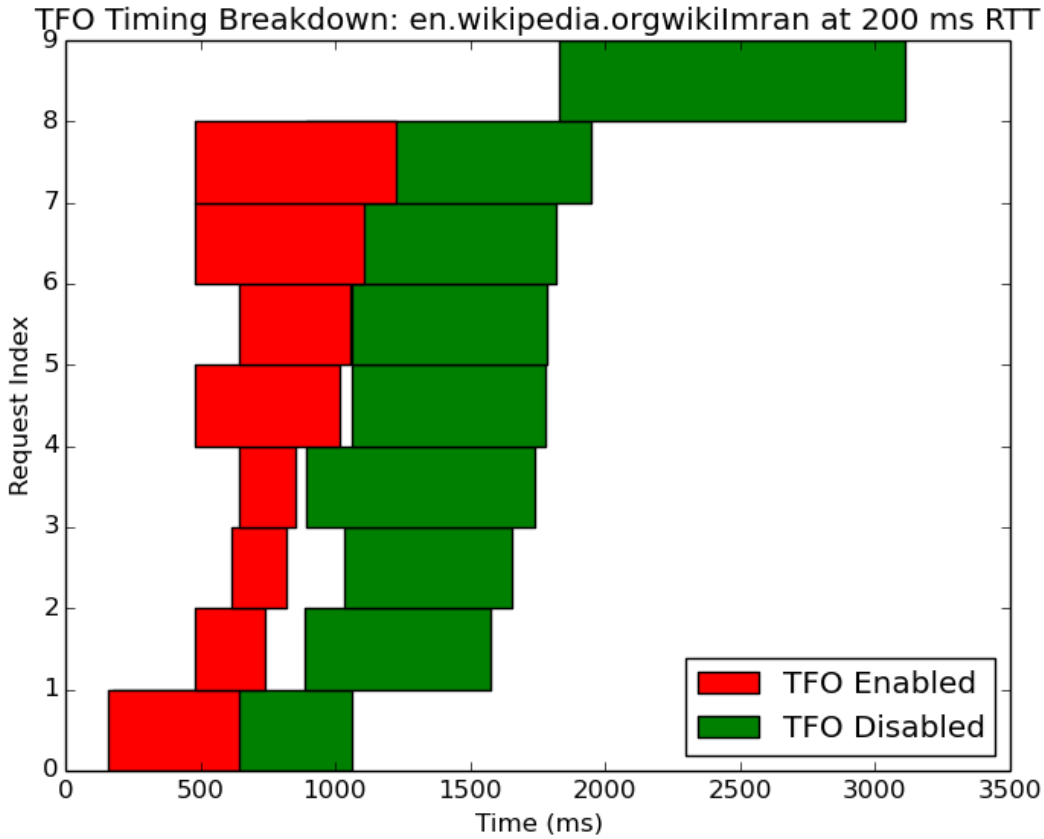
h. Does the particular content available at this URL lend itself to performance enhancements provided by TFO?
Yes.

i. Were these results surprising in any way?
No, it was very expected .

j. Relevent Graphs →




TFO Timing Breakdown: en.wikipedia.orgwikiImran at 100 ms RTT
Request Index
Time (ms)
TFO Enabled
TFO Disabled
0
1
2
3
4
5
6
7
8
9
0
500
1000
1500
2000


TFO Timing Breakdown: en.wikipedia.orgwikiImran at 200 ms RTT
Request Index
Time (ms)
TFO Enabled
TFO Disabled
0
1
2
3
4
5
6
7
8
9
0
500
1000
1500
2000
2500
3000
3500

3. Linkedin – Paulina Linkedin

httpwww.linkedin.cominmpaulinar

k. What effect does TFO have on the timing?
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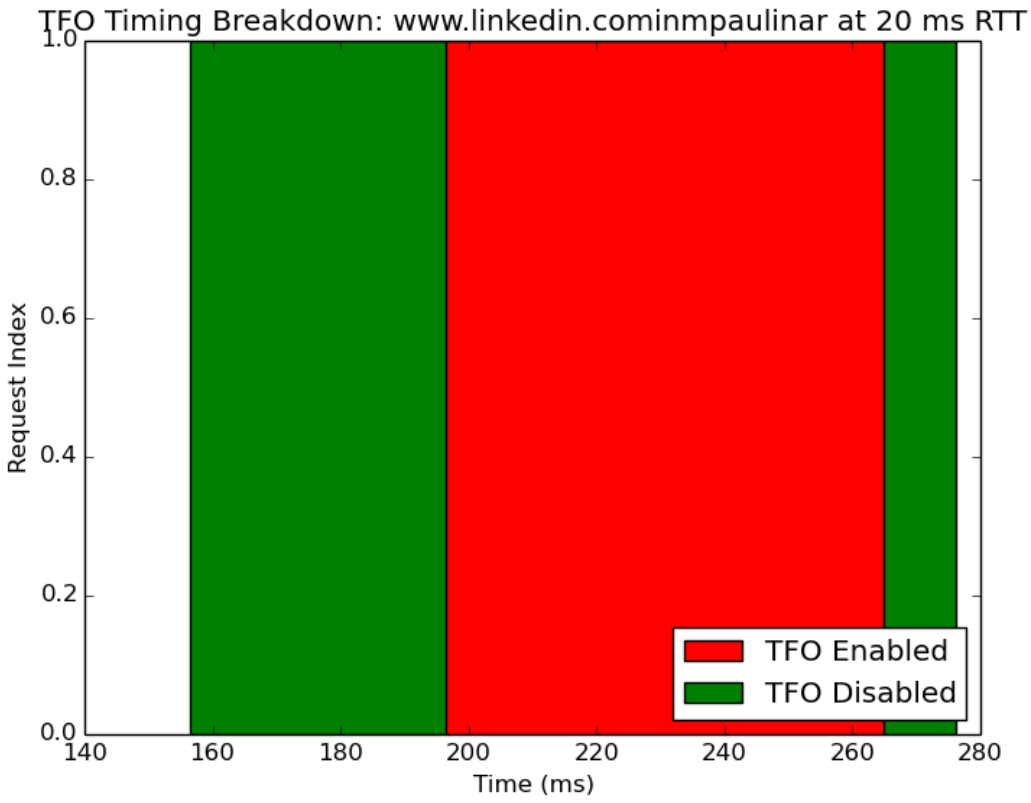
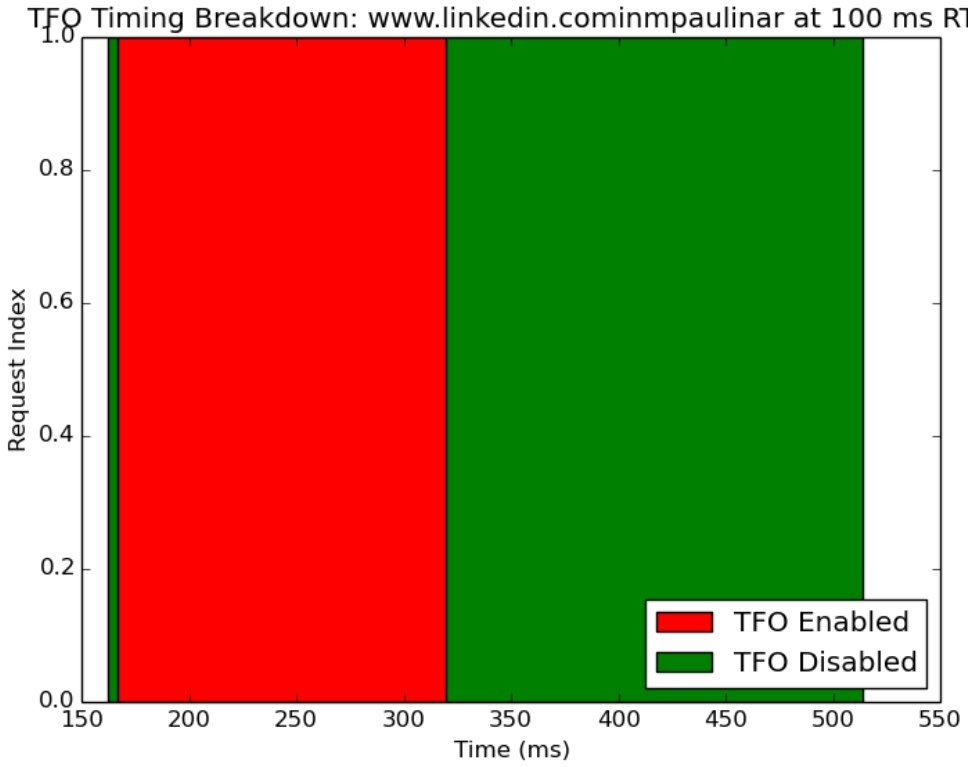
l. How does the RTT value affect these results?
The higher the Round Time Trip the more improvement in TFO when compared to NON-TFO

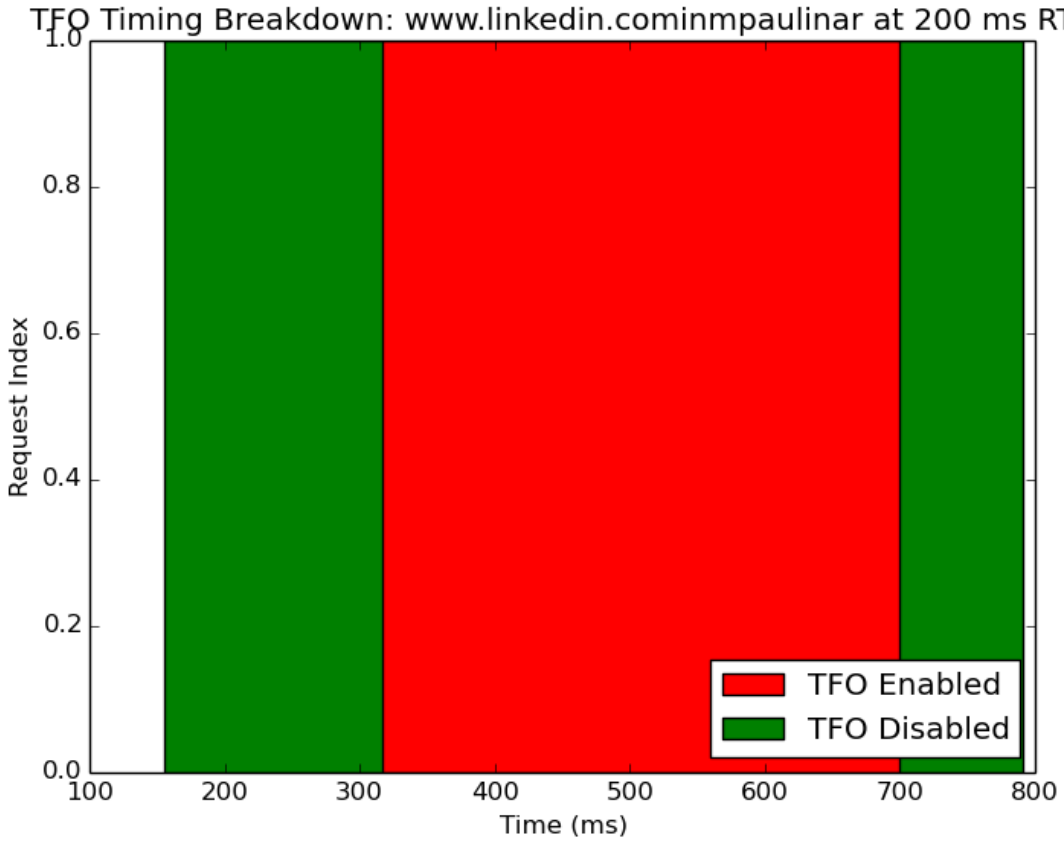
m. Does the particular content available at this URL lend itself to performance enhancements provided by TFO?
Yes.

n. Were these results surprising in any way?
No, it was very expected .

o. Relevent Graphs →




TFO Timing Breakdown: www.linkedin.cominmpaulinar at 100 ms RTT
Request Index
Time (ms)
TFO Enabled
TFO Disabled
0.0
0.2
0.4
0.6
0.8
1.0
150
200
250
300
350
400
450
500
550


TFO Timing Breakdown: www.linkedin.cominmpaulinar at 200 ms RTT
Request Index
Time (ms)
TFO Enabled
TFO Disabled
0.0
0.2
0.4
0.6
0.8
1.0
100
200
300
400
500
600
700
800

Include a brief summary of your findings and state what conclusions you can draw based on the results of your experiment.

TFO is a lot faster than non-TFO when especially in higher transfer and RTT . TFO enables applications to decrease request latency by one round-trip time as handshaking has become a performance bottleneck for web transfers. TFO is a lot faster.

Based on the reading and your experiment, where do you see TCP Fast Open having the best potential for improvement? What about the worst?

Best potential for improvement is for longer transfers as TFO can improve single HTTP request latency by over 10% and the overall page load time from 4% to 40% and the worst is for shorter transfers.

Work Cited:

http://static.googleusercontent.com/media/research.google.com/en/us/pubs/archive/37517.pdf