Proposed Zoo Parking Plan with Optimal Space Usage

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Introduction:

The Zoo currently has 213 spaces in Prentiss lot and 654 in the Main Lot for a total of 867 spaces. The Parking Plan calls for an additional 415 spots to provide a total of 1282 spots.

Although the City Council resolution does not require amelioration of additional issues with Zoo access, we feel that the opportunity provided by this parking redesign is too good to miss. In fact, due diligence to our supporters, subscribers, taxpayers and the City Council requires all concerned to obtain the best possible value from the development.

The major issue we question is the non-optimal traffic pattern around the Zoo. On busy days, traffic starts building up more than thirty minutes before the 09:00 Zoo opening time. It backs up on Morrie Moss Lane and the south leg of Prentiss, all the way out on Poplar where the westbound inside lane sometimes backs up for hundreds of yards. It also backs up on North McLean and on both the eastbound and westbound lanes of N Parkway.

The major influx can last for several hours beyond 08:30, and there is often a smaller traffic backup between 12:00 and 2:00. There is also a Tuesday afternoon backup on popular free attendance days.

Although inbound Zoo traffic comes with two peaks, Zoo visitors start leaving by noon and leave throughout the day, with a minor peak at closing time. Outbound traffic rarely backs up outside the Zoo.

Good traffic planning and engineering would have Zoo-bound traffic enter from the regional street network and not through the Park. Why should Park visitors have their quietude and their peaceful enjoyment of the Park disrupted by traffic passing through on their way to the Zoo? Additionally, Zoo traffic passing through the Park is unsafe for Park users, pedestrians and bicyclists.

Our proposal:

a) Is a "maximum density parking plan", with the objective to show that the City Council resolution's requirement can be massively exceeded without taking any space from the Greensward or Little Greensward. With the parking requirement massively exceeded, we expect that the Consultants and City Engineering can improve this rough plan in many ways.
b) Provides 2304 spaces, over 1000 more than the City Council has specified. (A refined plan might reduce the number of spaces by 100-200.)
c) Completely protects the Greensward and Little Greensward
d) Saves the Park from Zoo traffic traversing the Park to get to the Zoo, with safety, noise pollution and air pollution benefits
e) Frees up Overton Park's parking spaces for use by Park users
f) Provides protected pedestrian pathways through the parking to the Zoo entrance
g) Provides ADA parking at the closest location to the Zoo entrance, as required by ADA
h) Substantially reduces parking in the Evergreen neighborhood

i) Substantially reduces traffic and accidents in Evergreen neighborhood

Causes of Zoo Traffic Issues

Two major causes were observed. Firstly, the single-threaded parking shack for the main lot, and the additional temporary payment point at Prentiss create bottlenecks. Secondly, North McLean is a narrow, two-lane street, and there is no separate left turn lane at Prentiss for southbound traffic wishing to enter the Zoo.

Proposed Traffic Solutions

We suggest two traffic improvements.

1. Parking payment should be collected after the vehicle is parked. The design consultants should evaluate and propose a suitable parking fee collection process.
2. Stop driving through the Park or on North McLean to enter the Park. Use North Parkway, where the existing service entrance to the Zoo already exists. A pathway to the eastern end of the parking lot by internal Zoo roadbeds already exists to a large extent. All departing traffic exits at the west end of the current Prentiss lot, with a right-turn-only exit northwards on N McLean.

In addition, all vehicular access from the south is prevented by a permanent fence, with a keyed access for emergency vehicles, across the Prentiss roadbed, and regular access for pedestrians and cyclists only. Closing the Morrie Moss entrance will eliminate the emissions and traffic hazards to other Park users, and improve the Park experience for all.

Proposed Parking Plan

The linked Figure 1 shows our proposed parking plan, which yields an estimated 2304 parking places. This is 1122 more spots than the Zoo needs. Download the graphic from http://fnolan.com/A/Zoo_Maximum_parking.jpeg.

How we created Figure 1.

See Appendix 1.

The 1122 additional spaces in the plan, which are surplus to requirements, provide a lot of options for meeting the Zoo's parking needs while actually giving back a part of the southern portion to the Park.

The plan closes Prentiss as a public street, and also incorporates the new parking area east of the Main Lot, which the Zoo has been using, and running shuttles to, this year.

Access to the Parking.

Figure 2 is a sketch of the access available to the parking lot from the North Parkway entrance, which is currently a works entrance to the Zoo and a barricaded entrance to the Old Forest roadbeds.

The N Parkway access point has left and right turn lanes into the entrance. The westbound left turn lane could be extended eastwards and provided with an on-demand left turn light, as determined by City Traffic Engineering.

Point A is the N Parkway entrance to the Park. A 3-lane wide asphalted roadbed extended less than 200 feet south to a barrier at point B.

At point B, to the west, the Zoo main service entrance. A concrete roadbed, about 10 to 12 feet wide, follows the inside of the Zoo fence to point C. This roadbed could be extended with a crushed rock shoulder and reused for Zoo entry. The Zoo fence would need to be moved to the west side of this driveway. A low vehicle barrier can be used between this road and the parallel Park road which is closed to vehicular traffic. This driveway is about 800 feet long. The 90 degree bend near point C probably needs to be modified to a more gradual curve to allow 20 MPH turns without braking. It is important to note that 3 uses are needed between B & C, and there is sufficient width to accommodate all 3. The uses are- zoo service road, zoo parking access road, and pedestrian path around the Old Forest.

At point C, there is a gate in the fence, a small building and the end of the southward part of this concrete driveway. The driveway turns westwards at this point and follows the Seventeen Acre fenceline for about 240 feet to a point south of Elk Rut, point D. Much of this piece is already fenced, and there appears to be room for a limestone shoulder.

From point D to point E a distance of a little over 100 feet, is the western boundary of the Elk Rut and a small space between the elevated pedestrian structure between Elk Rut and the Grizzly Bear exhibits in Teton Trek. This space is tight and might require space concessions but there appears to be a little over 20 feet here for the access drive.

From points E to F, there is a grassy area, which will accommodate a new roadbed, to the south of an asphalt walkway which forms the southern boundary of the Zoo customer area.. This is about 100 feet long.

Points F to G mark a wide asphalt roadbed which is used for Zoo pedestrian access to Teton Trek. It is very wide, more than 20 feet. It is skirted to the south by a wide grassy area and the Seventeen Acre fence is further south. Some of the existing roadbed could be used, extended to the south. There is enough space here for additional Zoo parking of up to 100 vehicles not shown in Figure 1.

At point G, we have a large area currently used for Zoo employee parking, some of which is shown in our plan. The chain-link gate which connects this area to the main lot is here.

In summary, the entrance route mostly requires new fencing, the addition of a crushed rock shoulder, to accommodate disabled vehicles and emergency access, about 200 feet of new roadway engineering and modest widening of the remaining existing asphalt driveways. This route is viable. The first parking is available about 400 feet west of point F.

As there will be no need to stop to pay for parking at entrance, and as there is no cross traffic or turns across other traffic, this route will be able to support a steady stream of uninterrupted one-lane traffic and customers should be able to get access to the parking in a minute and a half at 20 mph, for a total driveway length of about 2000 feet.

This path to the parking will be substantially quicker than existing routes through the Park or along N. McLean. It will eliminate the queues and pollution of the current paths through the Park and on Morrie Moss, McLean, Poplar, and N.Parkway.

Summary.

This plan exceeds expectations handsomely along several vectors and can form the basis of a plan that will please all concerned, Park Protectors, the Zoo, and the neighboring residents who will enjoy better traffic flow. It also protects the remainder of the Park completely from Zoo traffic and the attendant emissions. The Zoo visitors' experience and convenience will be greatly enhanced.

Appendix 1.

How we created Figure 1.

- We printed the map from Google earth
- The scale was measured, 50 feet being 0.622 inches as measured by calipers.
- Access driveways, marked in black, run east to west and around the perimeter. They are 22 feet wide, enough for two lanes, although the majority of traffic will flow westwards unless someone doubles back. The scaled size was 0.274" rounded to 0.27".
- The width of each spot is 9', scaled as 0.112" rounded to 0.11"
- The depth of each spot is 19', scaled to 0.236", rounded up to 0.24"
- 32 ADA compliant disabled spots had 5' or 8' unloading spaces added and there are four van accessible spaces. These are arrayed around Zoo Plaza as the nearest possible spaces to the Zoo entrance.
- We added 9' wide protected pedestrian / cycle access paths at 250' intervals.
- We counted 60 mature trees in the lot and reserved 90 spaces so that mature trees can be retained, based on an algorithm that assumes trees are distributed randomly. We were unable to plot the individual tree positions. There are lots of small trees under 6" in diameter which can be either moved or replaced with similar sized trees.
- As our roundings were both up and down, we feel, based on our QA, that the parking map is accurate to within plus or minus 5%.