

APA-PA2019



- 400 planners expected
- Over 40 classroom sessions
- 4 mobile
- workshops offered
 Up to 12.25 CM credits,
- including Law and Ethics
- Making a return, Fast—Fun—Fervent showcasing multiple presenters, multiple topics, seven minutes each
- Welcome Reception at Berks History Center
- "We say YESI An Affirmative Agenda for Sustainable Growth" Opening Keynote Session by Jason Duckworth, Arcadia Land Company
- Annual Awards
 presentation—our best
 and brightest
- State of the APA-PA Chapter
- Monday reception with the Exhibitors
- Plenary "City and County Together Again!"
- "Extroverted Urbanism" Pitkin lecture by Chris Kroner, MASS
- Design Group
 Tuesday afternoon Desserts with our Exhibitors
- The largest annual gathering of planners in PA!



PA Chapter of the American Planning Association

2019 Annual Conference

Sunday, October 20–Tuesday, October 22 Reading, PA #APAPA19

APA PA

American Flanning Association Pennsylvania Chapter

Makina Great Communities Hanner

The largest annual gathering of Planners in PA!

October 20, 2019

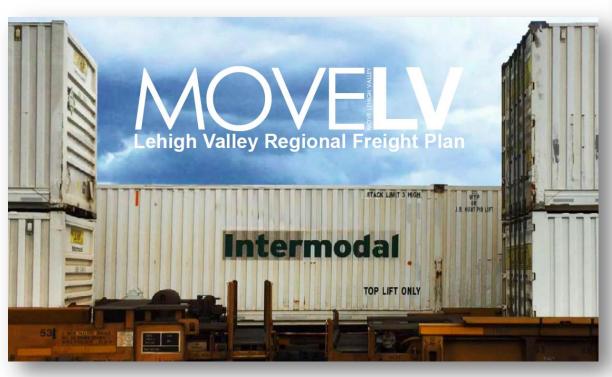
Planning for
Freight/Logistics and
Industrial
Development



Resources – All Modes

Federal – State - Region







Federal Highways - https://ops.fhwa.dot.gov/Freight/freight_analysis/index.htm

- Freight Disruptions
- Freight Policy Studies
- Information by State
- National Statistics and Maps
- Performance Measurements
- Regional and Industry Studies

Average Daily Long-Haul Freight Traffic on the National Highway System: 2015 Map

Average Daily Long-Haul Truck Traffic on the National Highway System: 2015



Note: Major flows include domestic and international freight moving by truck on highway segments with more than twenty five FAF trucks per day

Average Daily Long-Haul Freight Traffic on the National Highway System: 2045 Map

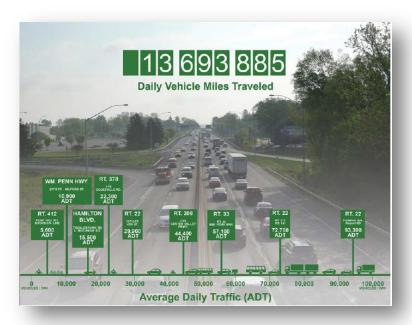
Average Daily Long-Haul Truck Traffic on the National Highway System: 2045

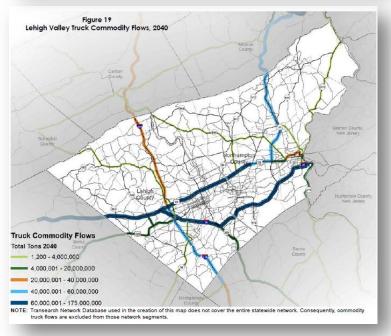


Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 4.3, 2017.

and between places typically more than fifty miles apart.

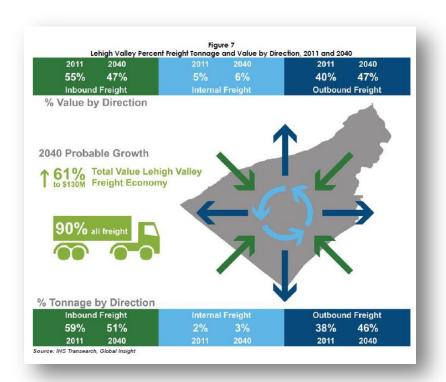
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 4.3, 2017.





Freight Data

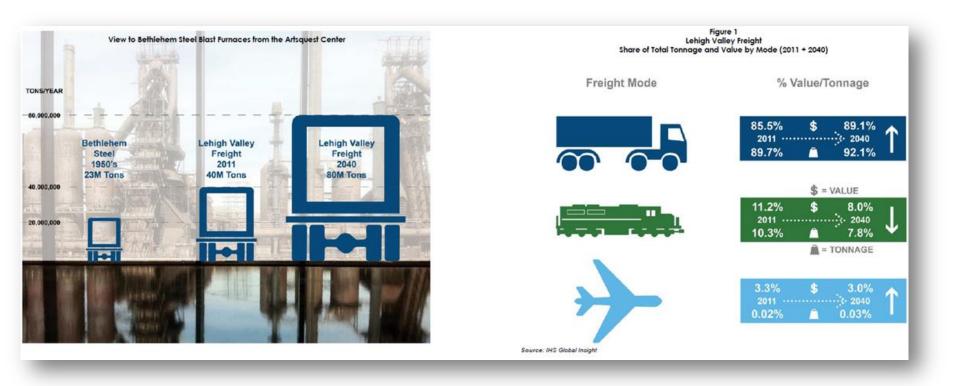
Network Info (Condition)
Travel Demand & Growth
Employment
Commodity Types and Movements
Forecasts
Travel Time Reliability (CMP)



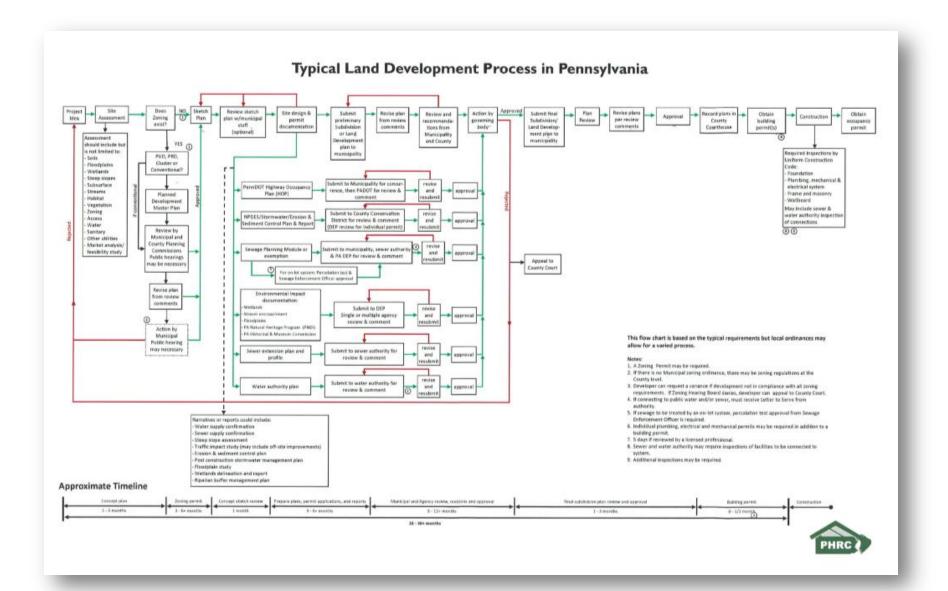
Freight Data

Network Info (Condition)
Travel Demand & Growth
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Forecasts

Travel Time Reliability (CMP)



PA Municipal Planning Code



MPC Limitations

All Land Uses Provided For (Multi-Municipal Plans)
Consistency...Not Concurrency
Off-Site Improvements (Transportation Impact Fee/HOP)



Legislation

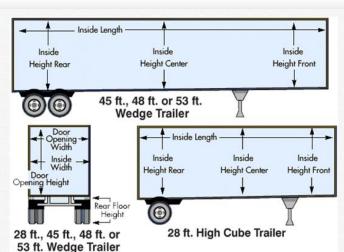
102's on 4-Digit SR's Motor Carrier Enforcement Driver Hours

Summary of Hours of Service Regulations

The following table summarizes the HOS regulations for property-carrying and passenger-carrying drivers.

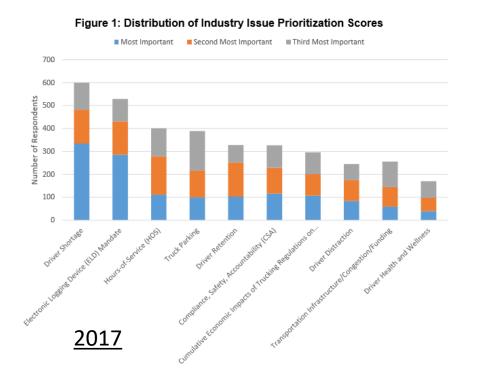
HOURS-OF-SERVICE RULES	
PROPERTY-CARRYING DRIVERS	PASSENGER-CARRYING DRIVERS
11-Hour Driving Limit May drive a maximum of 11 hours after 10 consecutive hours off duty.	10-Hour Driving Limit May drive a maximum of 10 hours after 8 consecutive hours off duty.
14-Hour Limit May not drive beyond the 14th consecutive hour after coming on duty, following 10 consecutive hours off duty. Off-duty time does not extend the 14-hour period.	15-Hour Limit May not drive after having been on duty for 15 hours, following 8 consecutive hours off duty. Off-duty time is not included in the 15 hour period.
Rest Breaks May drive only if 8 hours or less have passed since end of driver's last off- duty or sleeper berth period of at least 30 minutes. Does not apply to drivers using either of the short-haul exceptions in 395.1(e). [49 CFR 397.5 mandatory "in attendance" time may be included in break if no other duties performed]	60/70-Hour Limit May not drive after 60/70 hours on duty in 7/8 consecutive days.
60/70-Hour Limit May not drive after 60/70 hours on duty in 7/8 consecutive days. A driver may restart a 7/8 consecutive day period after taking 34 or more consecutive hours off duty.	Sleeper Berth Provision Drivers using a sleeper berth must take at least 8 hours in the sleeper berth, and may split the sleeper berth time into two periods provided neither is less than 2 hours.





Semi-Trailer Dimensions											
	Length	Inside Width	Inside Height Rear	Inside Height Center	Inside Height Front	Door Opening Width	Door Opening Height	Rear Floor Height	Cubic Capacity	Overall Width	Overall Height
28' High Cube	27'3"	100"	110"	109"	107"	93"	104"	47- 1/2"	2029 cft	102"	13'6"
45'Wedge	44' 1- 1/2"	93"	112"	109"	106"	87"	105-1/2"	50"	3083 cft	96"	13'6"
48'Wedge	47'3"	99"	112- 1/2"	110- 1/2"	108-1/2"	93"	105"	48- 1/2"	3566 cft	102"	13'6"
53'Wedge	52'	99"	111"	110- 1/2"	110"	93"	105"	49"	4050 cft	102"	13'6"
53'	52'	99"	110-	110-	110-1/4"	93"	105"	49"	4050 cft	102"	13'6"

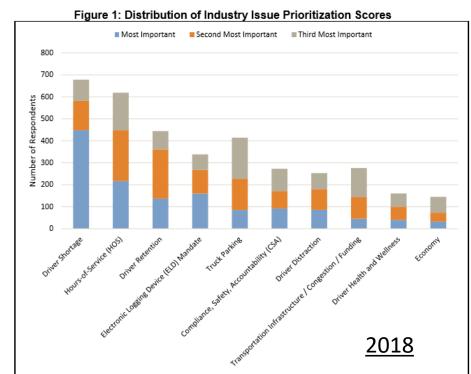
American Transportation Research Institute



Driver Shortage (#1)

Struggle to recruit and retain ATA estimate shortage of 50,000 drivers Pay, bonuses, and benefits boosted

Truck Parking (#4 and #5)(Driver #2)
Parking ELD implementation concern
Not able to preplan routes



Facility Design

III FREIGHT WAVES

Driver amenities, poor relationships and pay, and ELD concerns among top driver frustrations

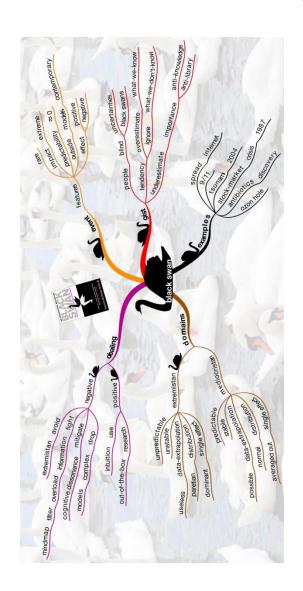
Brian Straight W . 12/19/2018





Require that showers, food services, sleeping areas, and entertainment and waiting areas are incorporated into facility design.

Technology. Help or Hindrance?



The Black Swan Theory Main Aspects of the Theory



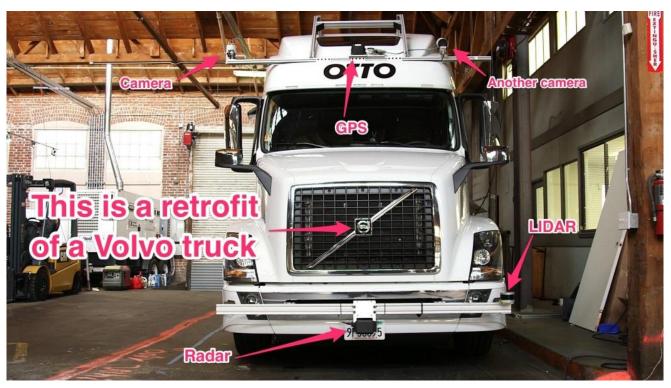
- Taleb believes that:
 - The more educated people are, the more likely it is that they incorrectly believe these unpredictable events are uncommon.
 - Information overflow in today's society
 blind us from relevant data about our life.
 - We don't interpret data accurately and create correlations that are not relevant.





AV Technology

Reduced Accidents (Distracted/Drinking)
Disabled and Elderly Mobility
Congestion
Jobs, Expense, Insurance



Moving & Producing in New Ways







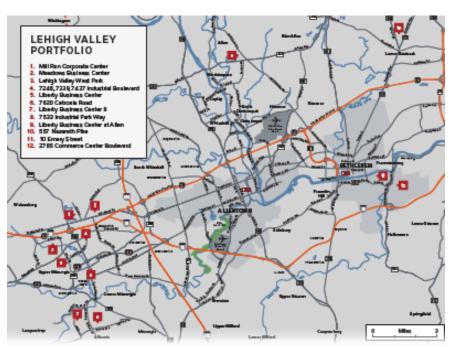


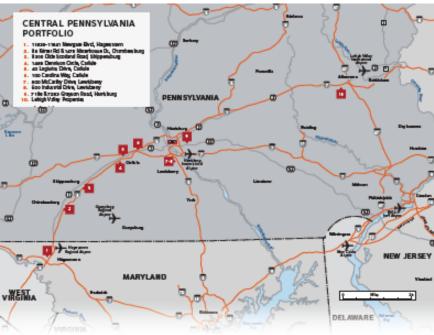
Jared

Liberty Fundamentals- Industrial Building Design



LIBERTY'S PENNSYLVANIA PORTFOLIO





OVERVIEW

Liberty is the largest industrial owner in the Lehigh Valley, and has been an active developer in the Valley for more than 30 years:

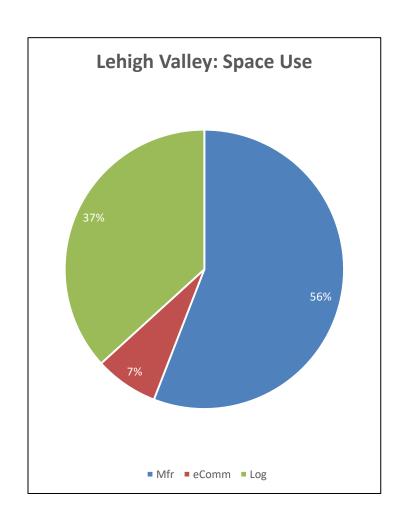
- ±21 million SF portfolio
- 395 acres for development
- Within 100 miles of the New York and Philadelphia metropolitan markets

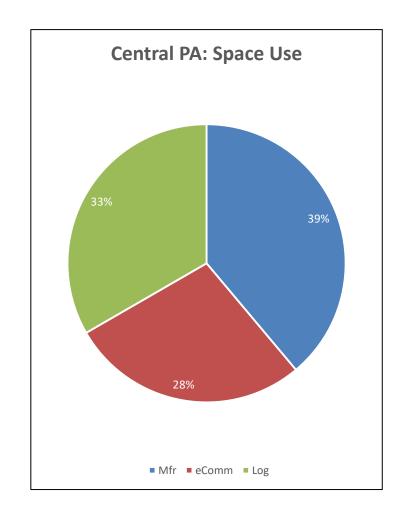
OVERVIEW

Central Pennsylvania has been one of Liberty's most robust markets for more than a decade. More about Liberty's Central Pennsylvania portfolio:

- Nearly 9 million square feet
- Located in a congestion-free location along the I-81 corridor
- Offers close proximity to 6 major metropolitan areas

LV/CPA BREAKDOWN BY SPACE

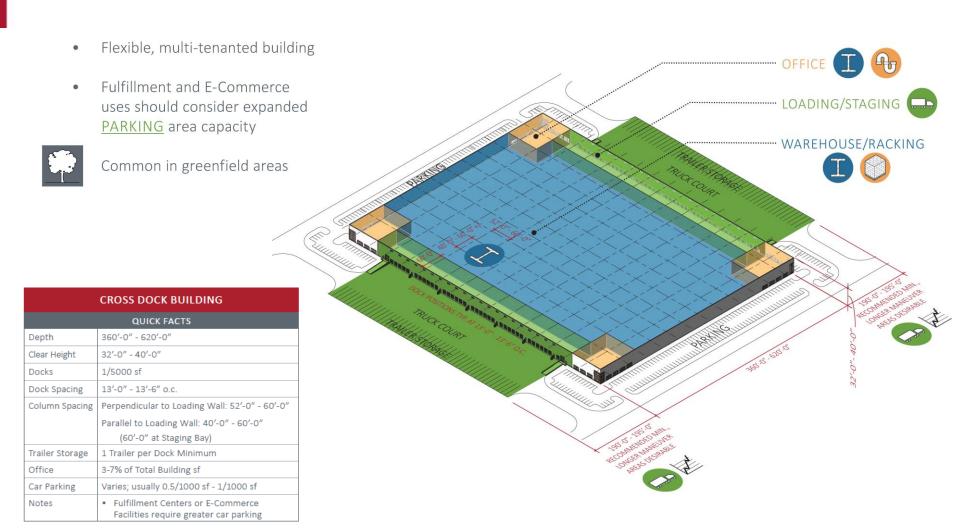




What's happening in the Box?

- Manufacture chassis and axles for Commercial Truck Plant
- Commercial Furniture Assembly
- Manufacture HVAC components with office HQ
- On Demand Printing operation
- Manufacture corrugated packaging
- Storage/Distribution Tele/Com Equipment & assembly/ repair clean room
- Manufacture pet food cans
- Manufacture residential doors
- Manufacture highway message boards
- Assemble HVAC custom filters and distribute
- Testing and packaging automobile batteries
- Admixture pharmacy
- Assemble and repair fire panels/Call Center/Admin office
- Make cleaning systems for the semiconductor industry
- Manufacture valves
- Manufacture conveyor systems
- Manufacture roofs for above ground storage tanks and separator basins
- Storage/Distribution
- E-Commerce Fulfillment

CROSS DOCK BUILDING



SINGLE LOAD BUILDING

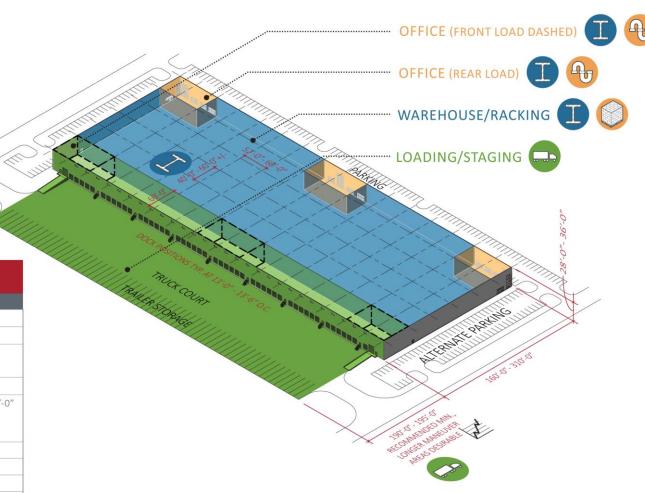
Common, smaller multi-tenanted building typology

Larger office to distribution ratio

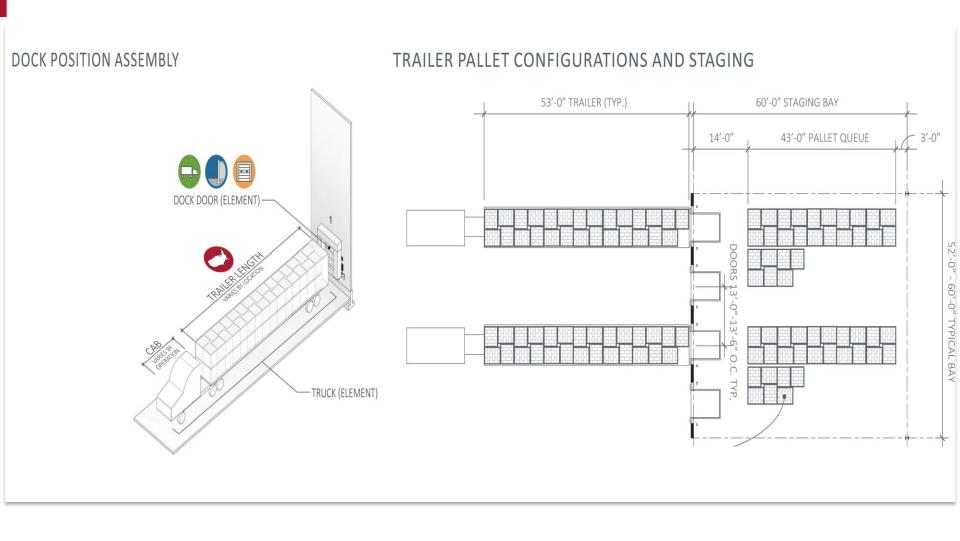


Common in a variety of sites, including both greenfields and urban areas

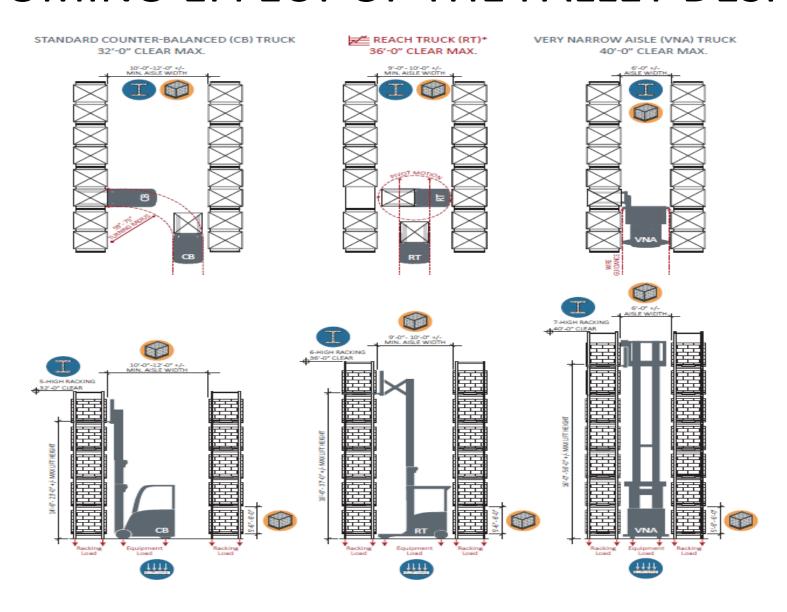
REAR LOAD/FLEX BUILDING (FRONT LOAD SIMILAR) QUICK FACTS 160'-0" - 310'-0" Depth 28'-0" - 36'-0" Clear Height Docks 1/3500 sf - 1/6500 sf *Front Load: 1/6500 sf - 1/7500 sf **Dock Spacing** 13'-0" - 13'-6" o.c. Column Spacing Perpendicular to Loading Wall: 52'-0" - 60'-0" Parallel to Loading Wall: 40'-0" - 60'-0" (60'-0" at Staging Bay) Trailer Storage 1 Trailer per Dock Minimum Office 5-7% of Total Building sf Car Parking Varies; usually 0.5/1000 sf - 1/1000 sf • In Front Load Buildings, locating the offices Notes along the dock wall reduces dock efficiency



MAXIMIZING PALLETS PER TRUCK

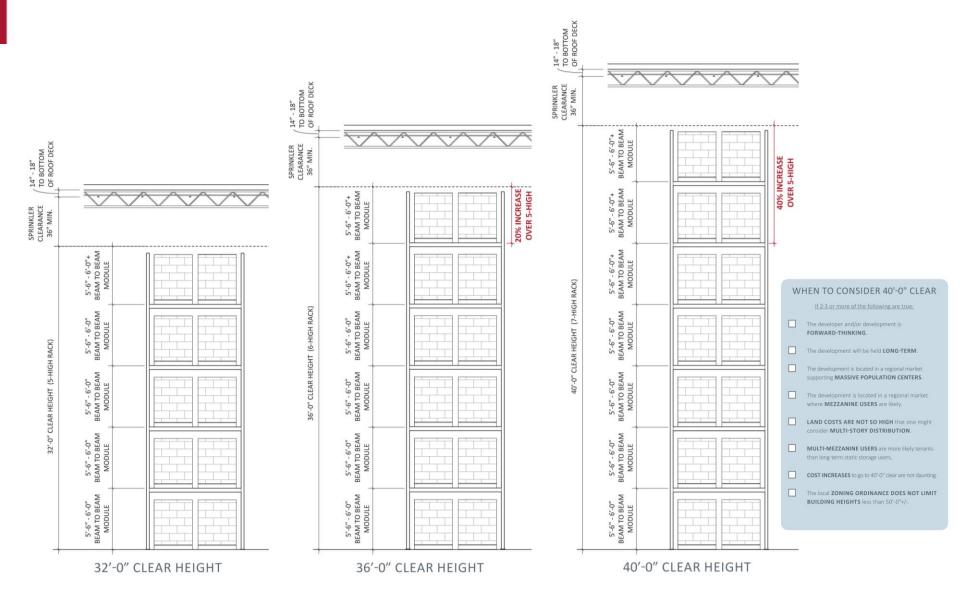


DOMINO EFFECT OF THE PALLET DESIGN

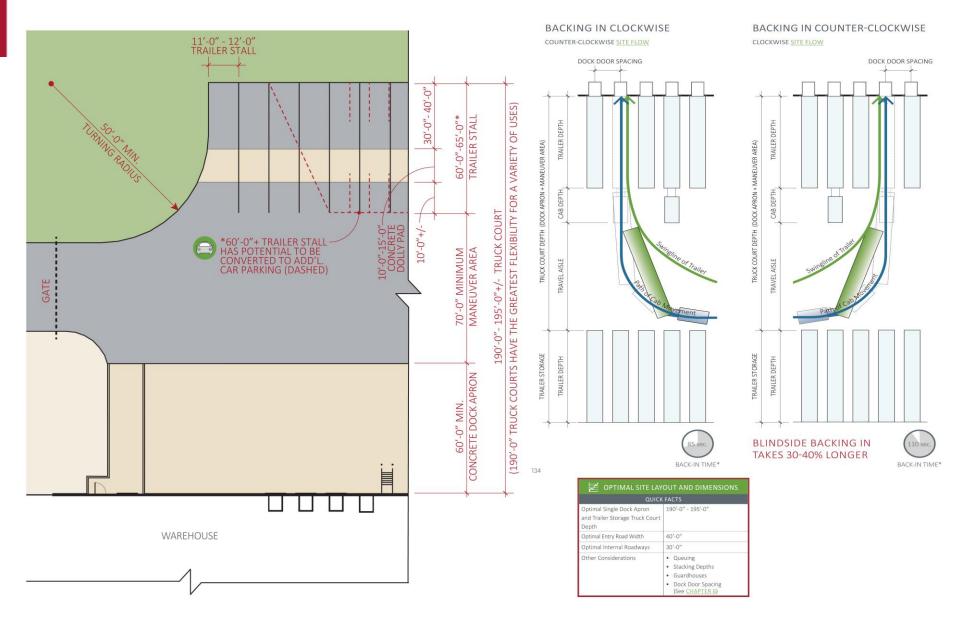




BUILDING CLEAR HEIGHT

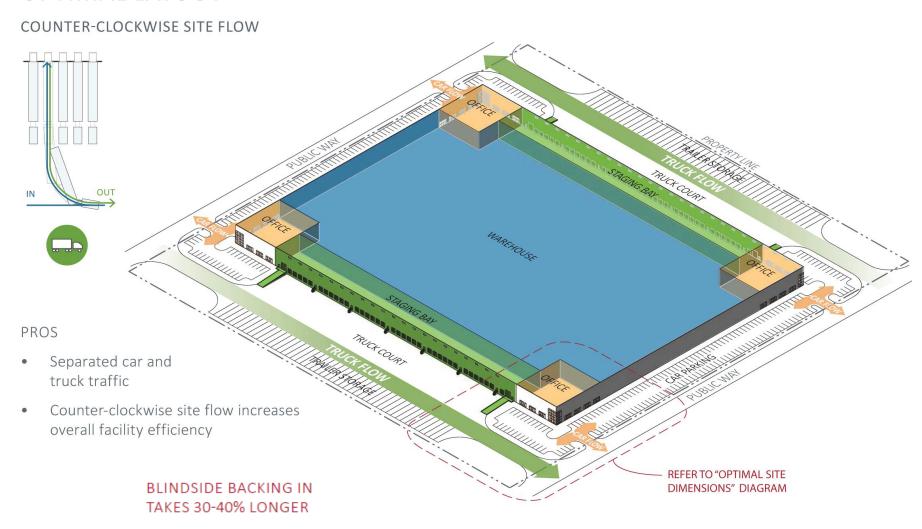


SITE LAYOUT AND DIMENSIONS



LAYOUT CONSIDERATIONS

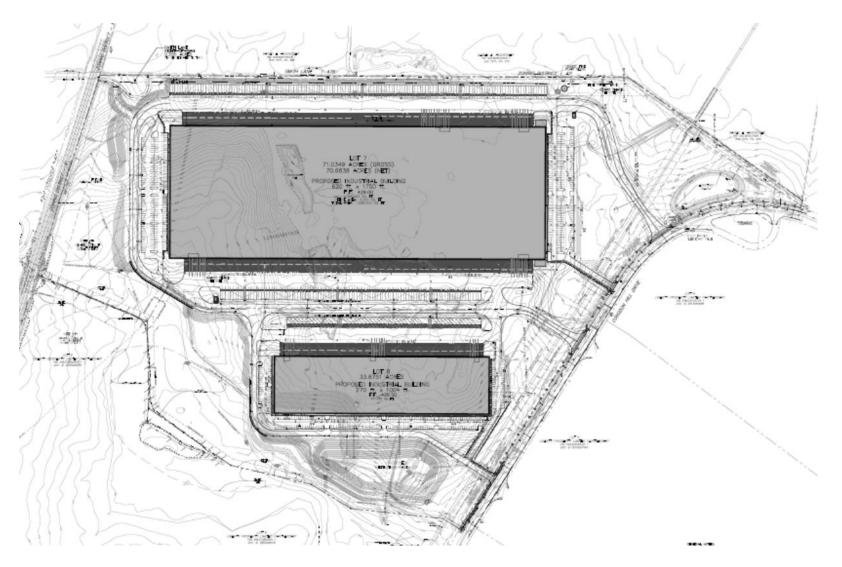
OPTIMAL LAYOUT



Liberty Business Center II Lower Macungie Township, PA



Liberty Business Center II -Lot 7 & 8



Sara

Planning for and Reacting to Warehouse Development. Lessons Learned

Concerns, approaches and solutions from Lower Macungie Township

Master Plan approach

- 500 <u>+</u> acre site approved for 6 warehouse pads on a private street.
- Sufficient turnaround at the end of a long culde-sac was designed

Master Plan, Liberty II



Trucks Backing onto Township or State Roads

- Private street with loop cul-de-sac
- Emergency access required





Trucks Parking on local roads, blocking visual access for driveways and congesting the street.

- Parking areas required for truck and driver layovers
 - Feature a drivers lounge
 - Add electric hookups to prevent idling
 - Gate set back from entrance to permit sufficient stacking and prevent backing up waiting trucks on the streets

Truck parking court with door access for lounges



Mixing of delivery and loading with employee and visitor parking

 Loop road added to separate visitor and employee parking



Plan for transit or drop off at facilities

- Bus stop locations coordinated with LANTA at the design stage
- Bus stops connected to the buildings and building entrances with sidewalks
- Road frontage contains sidewalks and street trees for comfortable and safe pedestrian access.

Large buildings are unsightly and out of scale

- Work with site grading to lower the building pad
- Visual simulation of views from major roads and homes was performed
- Large berms with 3:1 slopes required to screen sensitive view sheds.
- Landscaping is layered including the top of the slope and sides

Landscaped berms to screen from nearby development



Lighting can be Intrusive

- Required downlighting/ dark sky compliant fixtures
- Timing of lights to be tied to the work hours with only safety lighting overnight
- Landscaping perimeter of truck courts
- Shade trees required in employee parking areas

Look for opportunities that benefit the community and look long term

- Tie into rail siding for future use
- Locate trails for employees and benefit the community
- Landscape sustainably native plants, naturalized areas reduce maintenance.
- Storm water can be an amenity, opportunity to reproduce natural wetlands or provide entry statement (don't design to hide behind a fence)

1 mile trail along Little Lehigh Creek



Trucks on Local and Rural Roads

- Limit turning movements out of the facility with "pork chop" island and signage prohibiting turns and directing trucks to the appropriate route.
- Post signs in the facilities instructing drivers on the appropriate route
- Designate truck routes and prohibited streets
- Weight restrictions on bridges
- Enforcement

Directional Signage Examples





Nate

Warehouse/ Logistics & Industrial Ordinance Provisions

Lower Macungie Township

How to Enact Best Practices & Lessons Learned into Zoning Ordinance?

- ADDRESS KNOWN PROBLEMS AND ISSUES
- 1. Location and process.
- 2. Unwanted off-site parking, idling, resting and other affects.
- 3. Minimizing on-lot traffic issues.
- ▶ 4. Mitigate offsite traffic and charge impact fees accordingly.
- ▶ 5. Properly screen/ buffer the use to protect abutters.
- ▶ 6. Offset stormwater impacts of the use on site and design to decrease use's footprint.

Location and Process

- MPC requires allowing for all uses. Define the use and designate where it is appropriate within the community.
- Limit zoning districts where use is allowed that matches adopted plan(s), or area appropriate for use.
- Establish Conditional Use process to ensure hearing and provisions/ conditions may be added to a development proposal.

Establishing Amenity Area Requirements:

- Required rest area parking spaces.
 - ➤ Set a dedicated 5% of truck parking spaces for rest/idling to provide parking for legally mandated breaks. Ensure electric hook-ups are available.
- Required lounges with restroom facilities, vending areas, etc.
- Space amenity areas proportionately to size and scale of the facility.
- Require adequate queueing/stacking lanes at entrances to avoid backups onto public streets during delivery or pick-up times.
- Separate passenger vehicle traffic from truck traffic with different entrances, lanes and parking areas. Ensure design avoids mixing traffic.
- ► Trails on-site to promote recreation and interconnectivity with the community.

Properly Screen and Buffer to Size and Scale of Proposal

- Require 50 foot buffer yards filled with berming, evergreen trees, deciduous and flowering trees, shrubs, bushes, ornamental grasses, etc. to fully shield view of use in close proximity ad at distance.
- Creation of a "Class C Buffer" specifically points designers to visual guide and expectation of Township within ordinance and design guidelines.
- Lighting: Site lighting shall utilize shielding and not produce glare, minimize ambient light, not shine on abutters.

Class C Buffer Standard:

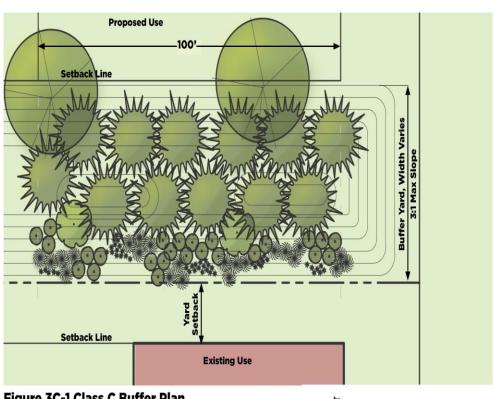


Figure 3C-1 Class C Buffer Plan

NOTE: TREES ARE SHOWN APPROX. 10 YEARS AFTER PLANTING

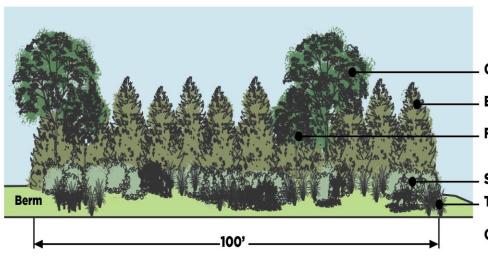






- **Tall Ornamental Grass**
- **Perennial**

Class C Buffer Standard



NOTE: TREES ARE SHOWN APPROX. 10 YEARS AFTER PLANTING

Figure 3C-2 Class C Buffer Elevation

Canopy Tree

Evergreen Tree

Flowering Tree

Shrub

Tall Grass or Perennial

Class C Buffer

- 1 Evergreen Per 20 Feet
- 1 Canopy Tree Per 50 Feet
- 1 Flowering Tree Per 30 Feet
- 7 Shrubs Per 30 Feet
- 22 Perennials or Tall Grass Per 30 Feet
- 1 Berm Varying 6'-8' in Height
- 3:1 Maximum Slope

Utilizing Adopted Design Guidelines to Influence Final Product

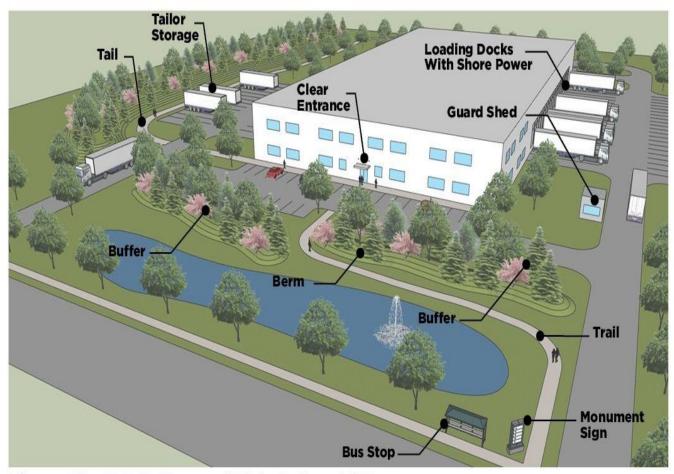


Figure 8A - ORLIC Uses and Light Industrial Uses

Utilizing Adopted Design Guidelines to Influence Final Product

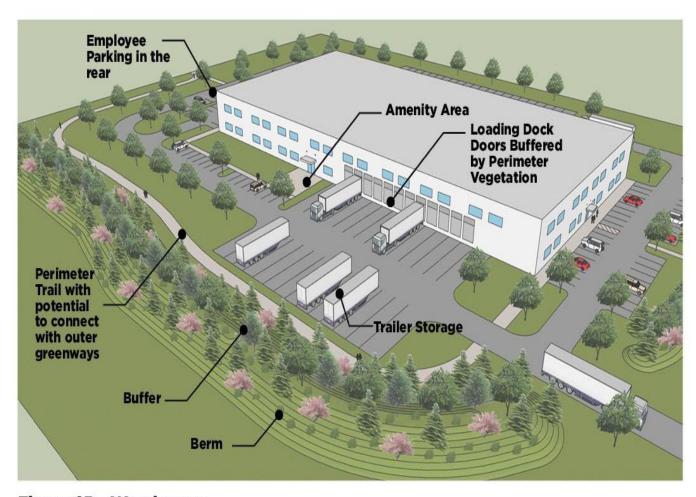


Figure 8B - Warehouses

Enhanced Stormwater Management Requirements to Minimize Impact.

- ► Naturalization of all management features-
 - Basins with natural grass and flower plantings.
 - Irrigation areas with natural grass and flower plantings.
 - Vegetated swales with seed and tree/ shrub plantings.
 - Mixing of grasses/ seeds as opposed to regular lawn grass:
 - ▶ Pollinator garden areas.
 - ▶ Diverse ground cover.
 - ► Habitat area.

Examples of Naturalization:



Photos courtesy of The Wildlands Conservancy

Examples of Naturalization:



Photo courtesy of The Wildlands Conservancy

Examples of Naturalization:



Photo courtesy of The Wildlands Conservancy



THANK YOU!!

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