

On-Line Training Program

Module #6

How to Proceed with AGVS

AGVS Product Section

of

MHI

How to Proceed with AGVs

Define Project Goals & Objectives (1/6)

- What Issue(s) are driving your AGV Project?

(examples: capacity increases, labor cost reduction, increase throughput, reduce damage, improve quality, track product, etc.)

1. _____

2. _____

3. _____

- What Issue above is Most Important?



How to Proceed with AGVs

Define Project Goals & Objectives (2/6)

- What Goals you are trying to achieve with this project?
(be specific, in the end it must be measurable)

1. _____

2. _____

3. _____

4. _____

[SMART Goals] -

Specific, Measurable, Attainable, Relevant, Time-bound



How to Proceed with AGVs

Define Project Goals & Objectives (3/6)

- What are the main corporate objectives you are trying to accomplish and what are your benefits for meeting these objectives?

1. _____
2. _____
3. _____
4. _____

Examples: Increase Revenue,
Reduce Costs, Improve Safety, etc.

How to Proceed with AGVs

Define Project Goals & Objectives (4/6)

- What is the desired time to have an AGV system solution implemented and fully operational in your facility?
- Are there any times (peaks) during your year that will not allow for the AGV start up and installation?



How to Proceed with AGVs

Define Project Goals & Objectives (5/6)

- In your application, what are the perceived advantages of an AGV solution over the status quo?

1. _____

2. _____

3. _____

4. _____



How to Proceed with AGVs

Define Project Goals & Objectives (6/6)

- In your application, what are the perceived advantages of an AGV solution over other transport technologies?

1. _____
2. _____
3. _____
4. _____

Examples: Not a permanent obstacle, requires minimal facility modification, built-in redundancy, etc.

How to Proceed with AGVs

Facility System Layout Drawing

- Best - An AutoCAD architectural type plan- view scaled facility drawing is helpful in establishing the baseline for AGV pathway and movements.
- Next Best - a sketch of facility layout with suggested path route if AutoCAD drawing is not available.

Note: Include dock areas, storage areas, main pathways, obstructions, picking areas, office areas, battery charge areas, and any other relevant work spaces, utilities, and equipment appurtenances. Also provide as much detailed dimensional data as possible such as aisle widths, distance between columns and fixed equipment, etc. that may affect the path route.



How to Proceed with AGVs

Load Information (1/2)

Complete for each load type identified to be transported

- Product(s) are transported on :

Pallet, Container, Cart, Skid, Other

- If pallet, what is the pallet type :

Metal, Plastic, Wood, Other

- Fork Opening Dimensions



How to Proceed with AGVs

Load Information (2/2)

Complete for each load type identified to be transported

- Load Weight: _____ max. lbs. per unit

- Overall Load Dimensions:

_____ “Long x _____ “Wide x _____ “High

*size includes overhang of product on the pallet



How to Proceed with AGVs

Transport Distance Matrix

- Place transport start (P) and end points (D) on the AutoCAD drawing or facility sketch, or
- Complete Transport Distance Matrix (feet or meters)

	D1	D2	D3	D4	D5	D6	Total
P1	120	100	50	400	425	550	7
P2	100	200	80	320	180	590	13
P3	50	120	100	260	250	610	6
P4	200	300	150	120	300	380	8
P5	400	120	180	90	200	530	7
P6	120	300	160	300	100	400	8

How to Proceed with AGVs

Activity Movement Matrix (average)

- Complete Transport Movement Matrix (per hour)

	D1	D2	D3	D4	D5	D6	Total
P1	4	1	2	3	4	2	16
P2	0	4	4	0	0	5	13
P3	0	0	0	2	2	2	6
P4	2	0	0	3	3	0	8
P5	1	1	0	0	0	5	7
P6	0	3	5	0	0	0	8
TOTAL	7	9	11	8	9	14	58

How to Proceed with AGVs

Activity Movement Matrix (peak)

- Complete Transport Movement Matrix (per hour)

	D1	D2	D3	D4	D5	D6	Total
P1	4	1	2	3	4	2	16
P2	0	4	4	0	0	5	13
P3	0	0	0	2	2	2	6
P4	2	0	0	3	3	0	8
P5	1	1	0	0	0	5	7
P6	0	3	5	0	0	0	8
TOTAL	7	9	11	8	9	14	58

How to Proceed with AGVs

Baseline Activity Rates & Growth

- Baseline year: _____ (2012 or basis of data file as a reference)
- Design year: _____ (Future plans for systems)
- Forecasted growth: _____ %
(Annualized growth rate from baseline year to design year)

How to Proceed with AGVs

How Are Material Movement Orders Created?

- Warehouse Management System:

Legacy company own, or (SAP, Manhattan, Red Prairie, etc.)

- ERP System:

Legacy company own, or (SAP, Manhattan, Red Prairie, etc.)

- Transport Orders downloaded from WMS:

Real-time, hourly, daily, weekly

- Input device for initiation of Transports:

WMS, Push Button, Monitor, Tablet, Barcode, RFID, or other



How to Proceed with AGVs

Additional Information:

- Provide any other information or questions you may have that would assist an AGVS Member company in understanding your business case, your production or warehouse operations, your goals and objectives, and your vision for automating your operations.



How to Proceed with AGVs

Final Procedure

- Contact MHI AGVS member companies and send collected information.



For More Information:

Contact the
AGVS Product Section
of
MHI

<http://www.mhi.org/agvs>